

The Australian **COMMODORE** and **AMIGA REVIEW**

Video

C64 Digitiser

**Choosing an
Amiga Studio**

**Review:
Deluxe Video III**

**Desktop
Video Column**

● **Dot Matrix Update** ● **Advanced BASIC**

● **Kurta Graphics Tablet** ● **C64 Simple Graphics**

DIGI-VIEW GOLD

4.0

This image was photographed directly from an Amiga 1080 Monitor and shows the new 4096 color Dynamic HiRes Mode available with Digi-View 4.0.

4096 Colors in High Resolution

Digi-View Gold, the best video digitizer for the Amiga, just got one hell of a lot better. With the all new Digi-View 4.0 software you can do the one thing most people thought was impossible—digitize and display all 4096 colors in high resolution! We call this revolutionary new graphics mode Dynamic HiRes and you will have to see it on your own screen to believe it. But that's just the start of what makes Digi-View 4.0 a breakthrough. Other new features include: Dynamic HAM (fringe free HAM), Noise Reduction (for the sharpest images ever), ARexx support, super bitmap digitizing (directly into Digi-Paint 3), 24 bit color support, 68020 compatibility and dozens of other new features making Digi-View Gold the hottest Amiga graphics product ever.

It's still just as easy to use as before. Simply focus your video camera on any object or picture, and in seconds Digi-View Gold turns it into Amiga graphics that glow with vibrant color and stunning clarity. Whether you are creating graphics for desktop publishing, presentations, video, or just for fun, Digi-View Gold gives you dazzling images with amazing simplicity.

Digi-View Gold is designed specifically for the Amiga 500, 2000, and 2500, and plugs directly into the parallel port. With complete software control of color saturation, brightness, sharpness, hue, resolution, and palette, advanced image processing is as easy as adjusting the

controls on your television.

If you want the best graphics possible for your Amiga, then you need the best selling video digitizer of all time: Digi-View Gold.

Only Digi-View Gold:

- Can digitize in all Amiga resolution modes from 320x200 up to 768x480 (full-HiRes overscan)
- Uses 2 to 4096 colors (including extra halfbrite)
- Uses exclusive Dynamic modes for 4096 colors in HiRes
- Is 100% IFF compatible and works with any graphics software
- Can digitize in 21 bits per pixel (2.1 million colors) the highest quality images possible
- Has advanced dithering routines that give an apparent 100,000 colors on screen simultaneously
- Has powerful image processing controls for complete IFF picture manipulation

Distributed and Supported in Australia by:

COMPUTERMATE
products (australia) pty. ltd.

P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080.
Phone: (02) 457 8118 Fax: (02) 457 8739.

\$299.00
Sugg. Retail

NEWTek
INCORPORATED

*Requires standard gender changer for use with Amiga 1000. Digi-View Gold, Digi-Paint 3 and Video Toaster are trademarks of NewTek, Inc. Give a man a VCR and he can watch reruns, give him a Video Toaster and he can make his own!

The Australian COMMODORE and Amiga Review

VOL. 7 NO. 4

April 1990

Contributors

Mario Annetta
Andrew Baines
Jon Benjamin
Phil Campbell
Oben Candemir
Nathan Cochrane
Damien Disney
Peter Gallen
Anthony Gillan
Michael Hassett
Eric Holroyd
Stuart Kennedy
David Legard
Rod McCallum
Dennis Nicholson
Marco Ostini
Frank Patterson
Ian Preston
Adam Rigby
Adrian Sheedy
Richard Silsby
Lindsay Swadling
Tony Smith
Trevor Smith
Michael Spiller
Tim Strachan
David Thompson
Nick Van Heeswyk
Harry Waterworth
David Williams
Graham Wintertlood

CONTENTS

Editorial	Commodore's future exhibitions	2
News		
C64ers ...	JiffyDos update	4
Ram Rumbles	Commodores in the media and in the office	6
Notepad	CanDo, EDLP, Benchmark, hard drive backup <i>AMIGA</i>	10
Letters	Superbase 64, Pirates, Amiga baud rate	12
Features		
C64 Video Byte Digitiser	Affordable complete digitising for the C64	14
C64 Video Magic	Connecting your C64 to the video recorder	16
Video and the Amiga	The Amiga can do it all!	17
Dot Matrix Update	Reviews of the StarLC24-10, Star FR-10 and OKI Microline 182 Turbo printers	42
Reviews		
Deluxe Video III	Plenty of RAM needed for all its attributes	28
Desktop Video column	Review of Vidtech's Scanlock	32
Kurta Graphics Tablet	Friendly user interface	36
Programming		
Assembly Tutorial III	The concept of Condition Codes	50
Simple Graphics	C64/128 Colour, Graphics & Sound Part II	54
Advanced Basic	Error messages	60
Entertainment		
That's Entertainment	News, Letters to the Editor, Amiga and C64 Hints and Tips, High Scores <i>AMIGA and C64</i>	62
Game Reviews	Slayer, Gemini Wing, Fire Power, Garfield, Chase HQ, Castle Warrior, Operation Cleanstreets, Red Heat <i>AMIGA and C64</i>	66
Adventurer's Realm	Help for problems, hints and tips, reviews of Psycho and Starflight <i>AMIGA and C64</i>	70
Advertisers Index		80

**Amiga Annual
1990**

ON SALE NOW

**Commodore
Annual 1990**

ON SALE NOW

\$6.95 each

From your
newsagent or
computer store or
direct from Australian
Commodore and
Amiga Review

Australian Commodore Review

21 Darley Road, Randwick, NSW 2031

Phone: (02) 398 5111

Published by: Saturday Magazine Pty Ltd.

Editor: Andrew Farrell

Entertainment Section Editor: Phil Campbell

Advertising: Ken Longshaw
(02) 398 5111 or (02) 817 2509

Production: Brenda Powell

Layout: Tristan Mason

Subscriptions & back issues:

Tristan Mason (02) 398 5111

Distribution: NETWORK Distribution

Printed by: Ian Liddell Pty Ltd

COMPUTAMART

FIRST WITH THE BEST

DRAGON'S LAIR II

Escape from Singe's Castle.

It's here! The sequel to the original Dragon's Lair has arrived. More scenes with even greater graphics & sound. Loads faster & can be joined to the original for one huge game.

SUPER CARS

Fast, action packed motor racing on different circuits looking down on the action. Between races buy extra "Go Fast" parts from the shop. Negotiate with Car Salesmen for a better car.

FULL METAL PLANETE

Have you the right stuff to be a Full Metal Pilot? An exciting mix of arcade & strategy as you explore deep space collecting ore from planets by fair means or foul. Best of its kind yet.

HOUND OF SHADOW

Enter the world of H.P. Lovecraft's horror classic if you dare. Terror grips you at every turn. Spine chilling storyline with eerie graphics keep you on the edge of your seat as you try to unravel the mysteries of the Hound of Shadow. A must for all adventure lovers.

SPACE HARRIER II

This awesome 3D arcade shootemup is a must for all trigger happy Amiga owners. Armed with your plasma laser shoot your way through hordes of fire breathing Dragons & other weird aliens to the end of level monster guardians.

Computamart

Computamart Pty. Ltd., 622 Newcastle Street, Leederville, W. Australia 6007
Telephone (09) 328 9799, Fax (09) 227 7324, BBS (09) 328 4217

Dealer enquiries welcome

LEADERS IN PC ENTERTAINMENT

Editorial

COMMODORE have definite plans for two, possibly three, exhibitions this year.

The first exhibition falls in line with this month's theme - getting into video. It is **Sound and Vision '90**, a major exhibition for the film and television industry. It will be a four day event, to be held at the Sydney Showground from July 3rd to 6th. Commodore expect to be the sole computer exhibitor, with a largish 165 square metres of space. It sounds from those involved as though it will be an event well worth visiting, especially if you're serious about the Amiga in video and music.

The second exhibition is in the educational arena. The fifth **World Conference on Computers in Education** will be held at Darling Harbour from July 9th to 13th. Once again, an ideal point for teachers and students to view the Amiga's capabilities on a slightly smaller Commodore stand.

The fact that Commodore has chosen these events, rather than mainstream shows such as PC 90, is proof of their commitment to promoting specific areas of the Amiga.

Organisation behind these events has produced a large rush of enthusiasm amongst dedicated users and professionals. How thrilling it was to be personally involved in the behind-the-scenes organisation. Many names and faces within the industry who are masters of their art are involved with Commodore's plans for this year - which is continuing to unfold as the year Amiga succeeded.

The third is a possibility which we hope Commodore will pursue. An exhibition covering all areas of the Commodore C64 and Amiga machines would be eagerly received by Commodore's faithful following, also bring these great machines to the attention of the untiated.

No doubt, it would also be an opportunity to showcase products from overseas suppliers as well as talking with representatives from people like Gold Disk, Soft Logic, Newtek and the like. I believe such a show would be a very worth while event for Commodore and Commodore users alike. Let's hope they keep the plans rolling along.

Lastly, I am very keen to hear from any person interested in writing a regular column about the C64 or C128, especially about GEOS. Please contact the editor

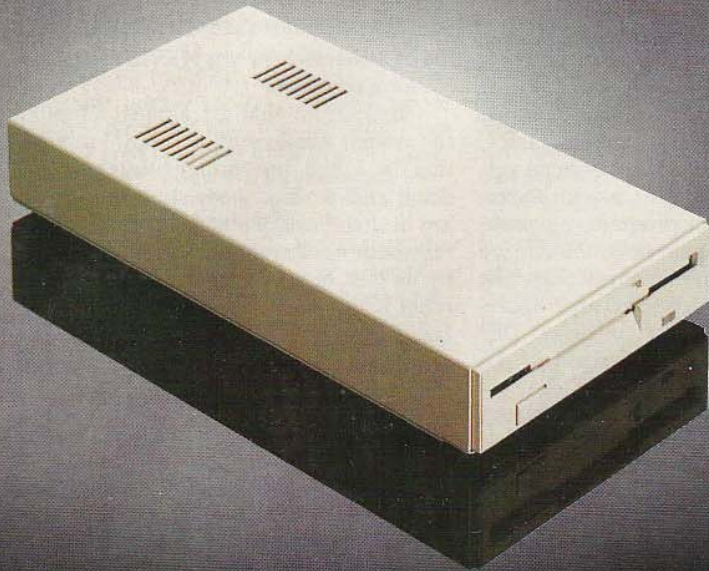


Andrew Farrell

AMIGA ACCESSORIES

MEGASLIM 3 1/2" Floppy Disk Drive

For Commodore Amiga 500/1000/2000



- Slim, one-inch high design
- Simplified mechanism
- Long life, reliable brushless direct drive motor
- Low power consumption
- Connects direct to computer — no power adapter required
- Fitted with 23 pin D-Series socket for additional drives connection
- On-Off switch
- One year warranty

PHILIPS MONITOR

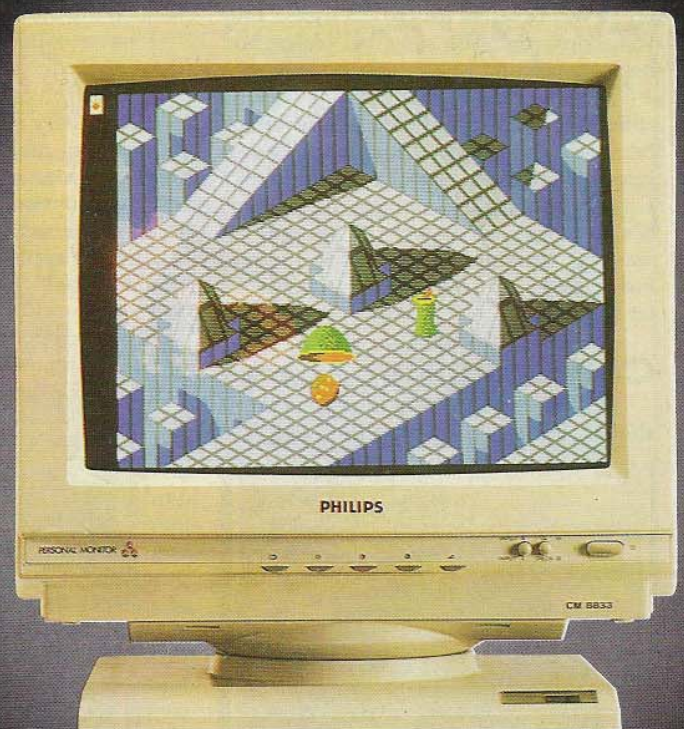
CM 8833 14" CVBS and RGB colour monitor

- IBM PC compatible (CGA)
- fastblanking to enable superimposing
- stereo audio
- earphone socket
- resolution: horizontal 600 dots x 285 lines vertical
- optional: pedestal 'tilt and turn'

SUITABLE FOR:

AMIGA 500/1000
COMMODORE 64
ATARI ST
IBM (CGA)
NINTENDO
SEGA
HOME VIDEO

(Pedestal and some leads are optional)



DISTRIBUTED BY:

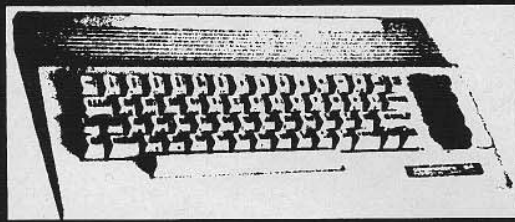
HOME ENTERTAINMENT
SUPPLIERS



PTY LTD

UNIT 1/128 BONDS RD, RIVERWOOD NSW, 2210 PH: (02) 533 3679 FAX: (02) 534 6421

C64ers...



JiffyDos Update

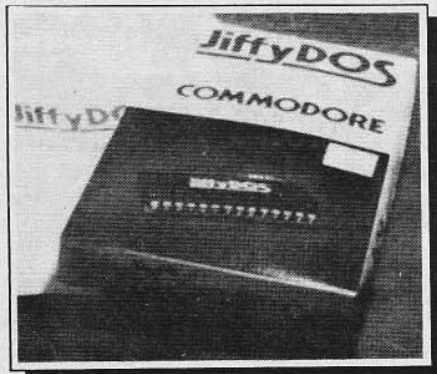
● Having first read the review of JiffyDos some time last year, I was a bit dubious about some of the claims made. However I purchased the system anyway. (I have a C128 plus 1571 drive.)

I proceed to fit the "chips" as instructed in the docs. Fitting the chip into the drive was a simple painless procedure, clearly laid out in the instructions. Next I came to installing the two chips inside the C128, where I discovered I had a discrepancy as to which chips to replace. With "The Anatomy of the C128" book on hand, I tried to identify the correct chips. I found that what the book said was the 64 kernal was not what the installation instructions said - which was right? Well, working on the assumption that the makers of JiffyDos knew what they were doing, I fitted the chip as per their instructions. Lo and behold it worked! Ten out of 10 to Creative Micro Designs, they were right and the so-called "reference" book was wrong.

Anyway, having put the tops back on computer and drive (I left the screws out, because if the system didn't work, or was incompatible with any of my programs, I wanted to quickly replace the original ICs) I proceeded to test the system. All was fine, programs loaded up to 15 times faster, saves up to three times faster. So far so good.

Compatibility

● The system was doing what it should, but now came the final test, that



of compatibility. I've got lots of games, so I can do them any time. My main priority was to use the system with *Superbase*. So I loaded the program, no problems, access files, again no problems, the final test was to run one of my *Superbase* utility programs which scans and reports on all data spread over six disks. This process usually takes in excess of 1.5 hours. To cut a long story short, the process took exactly 42 minutes, without any problems. SUPERB...

So I continued using JiffyDos for the last three months. During that time I have come across several programs (games) that would not load, also one graphics package (*Artist 64*), so first thing I did was switch the JiffyDos off and try again, still no go. Next I replaced the original ICs and still no go. (I know the programs were okay because I tried them on my brother's C64 plus 1541.)

I never found out about the games (they were on loan anyway) but I did phone Pactronics, the distributor of *Artist 64*, to query the problem, the reply I got was "yes, there is a problem with this program loading on the 1571 drive". I sent the program back and got a refund (thanks, Pactronics). I assume a similar situation is applicable to the games that wouldn't load. In short the JiffyDos is compatible with everything I've tried, with the exception of the programs that won't load on the 1571 anyway.

NOTE: Although the programs in question were all stated to be for the C64/128 they are no good for the 1571 drive. As you know this drive is standard on a C128D. Is it any wonder that there are so many "pirated" programs and disgruntled users about? (Ocean programs seem to be one of the biggest offenders using this type of "protection".)

Well, back to the subject of JiffyDos. I've been using the system since about mid-October. The only time I've had to switch it out is when using some copy programs (*Fast Hack'em + Disector*) which use specific drive routines. NOTE: I switch the system out now + not replace the chips, because I've found that

the ICs themselves are NEVER responsible for a problem.

Apart from that I'd almost forgotten the system was operative - until last week that is. I had just bought another 1571 drive and realised how slow they really are in their "native state". I put up with it for about six days, and was so frustrated by its lack of speed that I purchased another IC for the drive. Result - two super-fast RELIABLE disk drives. If Commodore had only incorporated this system themselves the "lumbering hippo" tag would never have been given to their drives.

What else?

● So what else does JiffyDos do? The answer is simple. Very little. It has single key DOS commands, an OLD command, and the V6 has an inbuilt two drive copy routine, but these routines are not to be sneezed at. While the copy routine isn't the fastest in the world, it is reliable, efficient, easy to use, readily accessible, and it hasn't corrupted one piece of data or file at all (which is more than I can say for some copiers).

Another plus is that the function keys are the same whether in 128 or 64 mode, something that no speed cartridge does. I find it very annoying trying to remember what Fkey does what in any particular mode. Also these keys can be easily reprogrammed. Also JiffyDos speeds up ALL disk operations, not just loading program files, like cartridges do.

What JiffyDos cannot do that speed-up cartridges can is freeze/backup programs, capture/edit sprites, character sets, etc, but then again how often are these options used anyway?

In my experience what most C64/128 users require is a good fast reliable disk speed-up utility and JiffyDos is the way to go. It's the most unobtrusive, reliable, most compatible system I have found, and for its purpose I would like to highly recommend it for ANY user of the Commodore C64/128. For its cost (about \$100) users would be doing themselves a gross disservice by opting for a cartridge to do the same job.

R. GASSON

TURBOLOAD

CARTRIDGE FOR COMMODORE 64

**LOADS
DISKS
FASTER**



- Easy to instal cartridge, simply plugs into your Commodore 64 or 128.
- Loads disks up to 6 times normal speed with both the 1541 and 1571 disk drives.
- Simplified DOS commands for loading files, formatting disks, deleting files etc.
- Stoppable directory listing which does not overwrite programs in memory.
- Built in menu maker to provide a menu for each disk to simplify loading and running of programs.
- Easy listing of BASIC programs to printer.
- Text screen dump to printer.
- Reset button — ideal for magazine pokes.
- One year warranty.

PROUDLY MADE IN AUSTRALIA
AND DISTRIBUTED BY —

**HOME ENTERTAINMENT
SUPPLIERS**



PTY LTD

UNIT 1/128 BONDS RD, RIVERWOOD N.S.W. 2210

PH: (02) 533 3679



AUSTRALIAN MADE

Ram Rumbles



Her Majesty's Amiga

● Commodore have done it again. The royals are impressed - and now the entire range of CBM products in the U.K. are on the HM Stationery Office ordering list. The list is used at over 11,000 ordering points in government departments and private industry.

Commodore office

● The Others, a company dedicated to expounding the virtues of Commodore equipment in their role in public relations, have taken the step of Amiga-ising their office. More on that soon! Until then, we would love to hear from people who are using any Commodore equipment in an office environment or for any professional line of work. Write in with details - best letters will be published in part in Ram Rumbles.

Commodore in the media

● Fast turning into the most popular segment in the magazine, we must thank all those readers who have responded to are request for media sightings of Commodore computers. Response to the new Snappy Tom ad has been marvellous, with facsimile and letter notification of the momentous event. Yes, the Amiga 500 is clearly visible! Can anyone tell us, which wordprocessor is Snappy Tom using?

Before moving onto other local Commodore Media events, we should mention several overseas sightings. A Danish television show with a difference sports an Amiga 2000. Viewers can call up the studio and on their tone phones play *Oswald*. The game has caught on big, and a joystick version for home use has also been released. On the TV show players can win anything from a chocolate bar to an Amiga 500!

Meanwhile, over in the USA, *Computer Chronicles*, a show dedicated to computing, has been plagued with calls from

Amiga users regarding their lack of attention to this wondrous machine.

As a result, the *Chronicle* recently devoted an entire half hour show to the Amiga. Products demonstrated included *Kindwords* (couldn't they find anything better?), *Deluxe Paint III* (thank goodness) and games such as *Menace* and *Battle Chess*. There were also demonstrations of MIDI music and video animation and FX with *AnimEffects* and *Broadcast Titler*. Why doesn't a local TV station wake up to the dire need for a good Home Computing segment at an early evening spot?

Local sightings

● The BBC production of *Tumble-down*, recently run on the ABC, showed a C64 by the hospital bed of the lead character. The program was about an officer in the British army shot in the head some ninety minutes before the end of the Falkland Islands war. The computer screen showed a repetitive message which vented some of the character's bitterness at his situation and treatment in hospital. Interestingly enough, it was used as a prop and was not touched throughout the scene. Thank you, Tony Petheridge of Epping, for that moment of Commodore media.

● Mr S. Huntly, resident of Orange, responded to our plea for sightings with a sighting in *Sesame Street*. Why were you watching *Sesame Street*, Mr Huntly? Passing through the lounge room when the kids had it on? Well, good for you - because there was a C64 on show as the various muppets explained computers.

● Our winner for this month - with no less than four separate sightings - including the Snappy Tom ad (no points for that, everyone else saw it too!), is Daniel Henderson of Manly. Daniel saw the BBC production *Call Me Mister* and sighted the co-star at work in his wheelchair-bound state busily hacking into Britain's mightiest computer systems with a trusty C128, 1571, 1801 and printer.

Far less heroic was the fate of an older style C64 which appeared in the Australian movie *Dear Cardholder*. The movie was about a software writer who tries to live completely off credit cards. He gets rid of his C64 in favour of the Apple Macintosh, which proceeds to eat him out of house and home with its need for ever more ex-

Update

STUNNED!!! I think that is the best word to describe my feelings at your reaction to **WEST PHASER** - AMIGA and PC. Here at Pactionics we barely had time to check them, put the warranties in before they were all sold out. I must therefore apologise to some of you who haven't been able to get hold of **WEST PHASER**, but can assure you there are more stocks on the way. For those of you who already have **WEST PHASER** or will shortly be enjoying this fabulous game, I am pleased to tell you that we now have stocks of "**CRAZY SHOT**" - another brilliant phaser controlled game!

I don't know if I have mentioned to you Amiga owners a game called "**PINBALL MAGIC**", but this has become one of the best selling games in Europe and now here, and recently received absolutely rave reviews in the Sydney Morning Herald. We have just received a game from the same programmers called "**TENNIS CUP**", and I can promise you that this is the definitive tennis game with outstanding graphics and sound effects. You can play singles or doubles, train, tournaments (Davis Cup); you can select one of up to 32 different opponents or even create your own opponent! INCREDIBLE!

For the C64 users we have some great new books and games for you too! Just to whet your appetite and if you don't want to sleep too well at night, get hold of "**NIGHTMARE ON ELM STREET**"! - Yes, Freddy is back!!! For the more faint hearted among you, try a more subtle game - "**MURDER ON THE ATLANTIC**".

C64 books include **TRICK & TIPS**; **ANATOMY OF THE C64**; **GRAPHICS BOOK FOR THE C64**; **PEEK & POKES** and **GEOS INSIDE AND OUT**.

Going back to you Amiga owners, we have just received the latest release - "**DESKTOP VIDEO GUIDE**". Ask for any of the above at your local Amiga/C64 dealer.

I am going overseas to some exhibitions at the end of this month and will have some exciting news for you in our May **UPDATE** column.

S.Y.W.I.G.B.

Advertisement



- 2000B \$1990
- 2000 HD 40 Mb V.Coil with 1084 Monitor \$CALL
- 2058 2Mb (8Mb) RAM Expansion \$895
- 2090A ST506/SCSI Hard Disk Controller \$799
- 2010 Internal 3.5" Drive \$199

500 Call for pricing

SPECIAL ON 2000 PERIPHERALS

- XT Bridgeboard \$750
- AT Bridgeboard \$1360
- 40 Mb V.Coil Hard Drive Kit \$999
- 40 Mb GVP H/card Quantum Dr \$1295
- 80 Mb GVP H/card Quantum Dr \$1995

COMMODORE ACCESSORIES

- 1541-II \$349
- MPS 1230 printer dual interface \$335
- 1351 Mouse \$75

- PC COLT** 101 Key Keyboard
- 12 months warranty +TVM colour monitor \$1995
 - 2 x 5.25" Drives, 40Mb V. Coil H/drive



ACCESSORIES

- 1352-Mouse \$75
- A501 512K RAM Expansion + Clock \$199
- 1011 Slimline 3.5" Disk Drive \$195
- CA880 Slimline 3.5" Disk Drive
- on/off switch, 12 months warranty \$199
- 1084 colour monitor \$475

☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆
 ☆ A590 Amiga 500 20 Mb Hard ☆
 ☆ Disk with 2Mb RAM option \$899 ☆
 ☆ Call for pricing on RAM upgrades ☆
 ☆ ☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆

PRINTERS

- MPS 1230 dual interface \$335
- Star NX-1000 colour \$499
- Star LC-2410 24 pin \$649
- OKI 182 Turbo 9 pin 220 c.p.s. \$399
- OKI 390 24 pin 270 c.p.s. \$799
- OKI 391 24 pin 15" 270 c.p.s. \$1099
- OKI 393C colour 24 pin 450 c.p.s. \$1899
- OKI 320 9 pin 300 c.p.s. \$649

BANKCARD & VISA, CHEQUES, MONEY ORDERS ACCEPTED
 DELIVERY ANYWHERE IN AUSTRALIA - CHEAP RATES



**BUSI-SOFT
 COMPUTERS**

PHONE: (03) 770 1717
 FAX: (03) 783 7024
 ORDERS ONLY: 008 032 085

☆ SUBSCRIBE ☆

The Australian COMMODORE and AMIGA REVIEW

**Make sure of
getting
your copy
Subscribe now!**

Please enrol me for issues
subscription to The Australian
Commodore and Amiga Review,
commencing with the
issue.

I enclose a cheque/money order
for \$

Please charge my Bankcard

Bankcardnumber:.....

Expirydate:.....

Name:.....

Address:.....

.....Postcode:.....

Please tick applicable box

First Subscription ☐

Renewal ☐

**TO: The Australian
Commodore
and Amiga Review
21 Darley Road,
Randwick NSW 2031
(02) 398 5111**

Rates within Australia:

6 issues \$19.00 (inc postage)

12 issues \$36.00 (inc postage)

Minimum OS postage \$35.00 AUS
(Air Mail) more for some countries

If you don't want to cut this out
photocopy it or just send a letter.

☆ NOW ☆

orbitantly priced peripherals. His daughter is eventually declared a neglected child by Child Welfare and taken away from him. The moral of the story according to Daniel:- he should have upgraded to an Amiga. He would have avoided a lot of family trouble.

Last of all, on ABC's *Quantum* program a scientist appeared to be using a C64 to analyse test results. This is not the first time Commodore brand equipment has been seen behind British or German scientists during such programs - the PET was a well loved machine too it seems.

A free subscription will start next month!

Commodores at work

● This is our new category, and already we have a number of spontaneous entries. We're looking for places where Commodores work. Once again, best letters will rate a mention. The very best will get a free subscription!

● Darren Healy noticed that Hilton Australia use a C64 on their in house movie channel to display the movie timetable. Furthermore, various video juke boxes around the country use the C64 to display info between film clips. One is in the Airmens Tavern at the RAAF base, Laverton, Victoria.

● And now for a multiple media sighting that we figured was really too big for a mere media listing. Alan Stuart of Port Hedland writes:-

"I have lived in Perth for quite some time, then moved to Port Hedland, in the North of the state, in October 1989. There is only a choice of two television stations in Hedland, namely ABC and GWN (Golden West Network).

"GWN is broadcast by satellite throughout the entire of Western Australia, and is either received by satellite dish & decoder in remote areas, or re-broadcast as a television signal at major towns.

"The station's programs are a mixture of programs from Channels 7, 9 & 10, as well as some local content. Also, a proportion of the commercials are those seen on, and produced by, the larger stations. However, there are a number of commercials produced by GWN themselves, and this is where the Commodore Amiga comes into the "scene".

"Having used the product for some time, it was fairly easy to recognise that GWN use an Amiga, Genlock, & CGI's *Pro Video Character Generator* software to

place titles on a lot of their commercials. *Pro Video* produces very distinct characters, and combined with other effects, can create some very professional titles. One example that springs to mind is the commercial for Sun City Ford, Geraldton.

"As this station covers a large area, with a diverse audience, and probably on a tight budget, it appears that they have purchased the computer that offers the best value for money to do the job.

"There may even be a story for your excellent mag here, if you approach GWN and see what they think of the Amiga, after using it for such a long time.

"Anyway, hope I have been of help."

Thank you - isn't it great to see the Amiga being used so professionally. Your spotting ties in nicely with our magazine theme this month too! A free subscription for you. Please phone our editorial office to confirm details on (02) 817 0011. □

C64 SOFTWARE

EXTENSIVE RANGE OF PUBLIC
DOMAIN SOFTWARE FROM UK,
USA, AUSTRALIA.

EACH DISK CONTAINS MANY
EXCITING PROGRAMS FOR ONLY
\$5 PER DISK.

● SPECIAL ●
INTRODUCTORY
OFFER

5 DISKS - \$20

+ FREE CATALOGUE DISK

● GAMES ● GRAPHICS
● UTILITIES
● TUTORIALS

IMMEDIATE DELIVERY

☐ PLEASE SEND 5 DISK OFFER
\$20 CHQ/M.O. ENCLOSED

Please tick your preference(s):

___ Games ___ Computing
___ Art ___ General

☐ PLEASE SEND FREE
CATALOGUE

Name: _____

Address: _____

PostCode: _____

**Post To: BRUNSWICK PUBLICATIONS
29 WATSON STREET
BONDI NSW 2026**

LEADING EDGE QUALITY HARDWARE

THE NEW STANDARD IN AMIGA PERIPHERALS



GREAT VALLEY PRODUCTS, INC.

IMPACT A2000 68030

Accelerators are all 28Mhz

- * 25 Mhz 32 bit Motorola 68030 offers A3000 power today
- * Up to 33 Mhz 6882 floating point math co-processor.
- * 8 MB state-of-the-art nibble mode DRAM design takes full advantage of the 68030 burst mode, effectively providing a zero wait-state DRAM access at 25 Mhz.
- * Built-in autobooting hard disk controller. Autoboot optional.

IMPACT A500-HD/RAM CONTROLLER also:

- * Combines SCSI controller, 3.5" hard disk drive and up to 4MB fast ram expansion for the A500 in a single, compact, snap-on unit.
- * Uses its own power supply. Fully meets the Commodore specification for maximum power

THE MOST POWERFUL HARD DISKS AVAILABLE

AUTOBOOT DIRECTLY FROM HARD DRIVE. INTERNAL AND EXTERNAL SCSI CONNECTIONS. ALL PARTITIONS CAN BE FFS WITH V1.3 AUTOBOOT. CONNECT UP TO 6 SCSI PERIPHERALS. DMA DATA TRANSFER TO ONBOARD 16K BUFFER. 11/19ms AVERAGE ACCESS TIME ON 400.

WHAT IS THE FASTEST AMIGA HARD DISK CONTROLLER?

GVP A3001/68030 accelerator boards. Over 706 KB/sec. (as measured by diskperf2) All new GVP controllers now come with GVP BOOST for even faster transfer rates/AUTOBOOT EPROM's are standard on all controllers.

drain on the Amiga A500 expansion connector.
* Fully AutoConfigs both the SCSI Hard Disk Controller and the 4MB FAST RAM.

Price for 45MB/4 \$1495

IMPACT A2000 SCSI+8 CONTROLLERS

NOW IN STOCK
IMPACT A2000-8/0/0 MB \$695
IMPACT A2000-8/0/40MB Quantum \$1495
2MB SIMM RAM \$390

(all drives come complete with mounting hardware)

IMPACT A2000 SCSI+2 HARD CARDS

(Saves a peripheral bay by incorporating a SCSI Hard drive and 2MB RAM on one card)
IMPACT A2000-HC2+0/0 MB \$595
IMPACT A2000-HC2+0/45MB \$1338
IMPACT A2000-HC2+0/40MB Quantum \$1425
2MB SIMM RAM \$390

IMPACT A2000 45MB Hard Card \$1195
IMPACT A2000 40MB Quantum HardCard \$1290



SC501: AMIGA 501 CLONE \$199

- * .5 MB expansion for Amiga 500.
 - * Built in clock /calendar.
 - * Superior 4 layer, low noise board.
- PLUS FREE POWER utility disk**
- * RAM ENABLE soft switch.
 - * VIRUS editors/detectors.
 - * Disk copiers, editors, crunchers etc...

SPIRIT IN-BOARDS Tens of thousands sold world-wide.

Why? All In-Boards are

- * Plug-in design. Mounts under the FCC radiation shield. Leaves the expansion bus completely free for other devices. Eg. hard drive.
- * Compatible with all known expansion devices.
- * 4 layer low noise PC board.
- * Fast solderless, no modification installation.
- * Custom VLSI memory controller chip (Zero wait-state Fast Ram)
- * Detailed installation instructions included on disk.
- * Battery-backed clock/calendar RAM chip (on IN-1000 only)
- * 12 Months warranty on all Products.

SIN 500 2MB RAM Expansion for A500 (gives you 3MB Autoconfig when used with 5MB 501 expansion) **\$650**

IN 1000 1.5 MB RAM Expansion for A1000 (with Battery backed clock) **\$599**

HDA-506: IBM HARD DRIVE ADAPTOR

- * Adapts all ST-506 hard drives, MFM or RLL.
- * Amiga 86-pin expansion port passthru.
- * Optional 1.3 Autoboot EPROM. **\$ 395.00**

8-UP! THE EIGHT MEGABYTE MEMORY CARD WITH THE AMIGA-SPECIFIC DRAM CONTROLLER LOGIC

ALL THE MEMORY SPACE YOU AND YOUR AMIGA 2000 NEED IN A MODERN, HIGHLY INTEGRATED FASTRAM EXPANSION BOARD

MicroBotics, Inc.

Great Products Since the Amiga Was Born!

PRICE: **\$385 FOR 0MB \$650 FOR 2MB**
\$915 FOR 4MB \$1180 FOR 6MB
\$1445 FOR 8MB UNBEATABLE VALUE

NEW FROM HURRICANE PRO RAM 1.8

- * User upgradable to 1.8 MB
- * Fully A501 compatible
- * Includes battery backed clock
- * External on/off switch
- * Leaves your 86 pin expansion port free

Fully populated with 2MB \$599

GENIUS AMIGA MOUSE

- * fully micro-switched, long cable, smooth design

\$59

MicroWay FLICKER FIXER for A2000

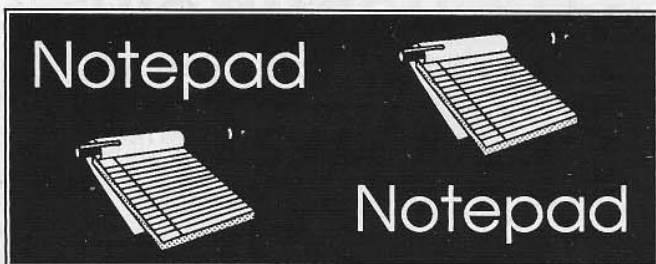
- * Eradicates all flicker in interlace mode
- * Enhances all display modes
- * Allows all modes to work with VGA monitors
- * Compatible with and transparent to all Amiga Software



Power Peripherals Pty. Ltd.
Expansion Solutions

68 WOODS ST,
LAVERTON, VIC 3028
P.O. BOX 555
LAVERTON VIC 3028
PHONE & FAX
(03) 369 7020

12 MONTHS WARRANTY ON ALL PRODUCTS
AVAILABLE FROM LEADING AMIGA RETAILERS
DISTRIBUTED IN AUSTRALIA BY
POWER PERIPHERALS



NASA buys up more Amigas

● Although NASA have had the odd Amiga in back rooms for some time now, publicity of their recent purchase of 25 additional machines is surely proof of new credibility Amiga now enjoys as a powerful graphics machine. In addition to the Amiga equipment, NASA have also installed a number of Neriki Genlocks from local manufacturer Fordray. Applications for all this gear include computer-aided design, solid modelling, simulation, graphics design and desktop publishing.

Other U.S. government agencies using the Amiga include the National Library of Congress in Washington D.C. and the National Park Service. The Amiga is the heart of the National Park Service's interactive video information kiosks in parks across the United States.

UK applications of a similar nature have also enjoyed the use of Amiga computers. Two Amiga 2000s have been installed in the New Forest Museum and Visitor Centre complete with an interactive database helping visitors locate points of interest. The Amiga holds hundreds of digitised photographs of local animals, villages, sports facilities and places of general interest. We wonder whether digitised sounds could be added to further improve the system?

Other big guns with a fancy for Workbench include: General Dynamics, Walt Disney Studios, Lawrence Livermore Labs, Motorola, Boeing, Tektronics, Dow and Cetus. We would love to hear more

about big names locally using the Amiga. Can you help? If so, please write to us with details.

Microllusions add to DTV lines

● An Edit Decision List Processor (EDLP) - (see this month's article on Amiga video for more info.) has been released by Microllusions along with a Time Code Reader Generator. Both these devices make truly professional video editing from the Amiga a possibility when used in conjunction with products such as Photon Video. RRP EDLP \$499 US and the Time Code Reader is \$799 US - NTSC support only at this time, but PAL versions are planned.



CanDo



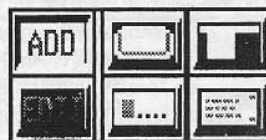
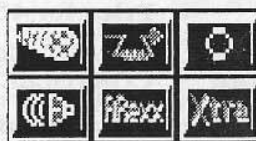
CanDoExtras

CanDo Audio-Visual Authoring

● Billed as the ideal product for creating multi-media presentations (or Hypermedia), tutorials - interactive or passive, utilities, recreational software and specialised applications, CanDo sounds like a significant step forward in Amiga development software for the end user. (We have to see all these claims - but a review copy is on its way across.)

CanDo is an application generator which makes strong use of all of Amiga's features. Programs

complete with gadgets, windows, menus and timers can be created - and you can use IFF files in the process. CanDo can directly control Arexx, Atalk3, Superbase, SuperPlan, CygnusEd, C.A.P.E.68K, Benchmark Module-2 and any other Arexx supporting product.



For sound, CanDo can utilise Audiomaster, Perfectsound, Futuresound and so on. 1MB of RAM is required, Genlock support is included and with custom micro servers you could even control LaserDisc players, VCR's and Editing decks. CanDo sounds like everything the multimedia designer would ever need. Both Computermart (09) 328 9799 and Computermate (02) 457 8118 are importing the product. RRP is around \$200.

Hypermarket hot up

● Another Hypermedia Authoring program has appeared. Viva from Knowledgeware sounds a lot like CanDo with the same intent of creating applications accessing all Amiga various features all within the bounds of a mouse drive/icon/menu environment. Authoring is object oriented - that is, you don't have to fuss around with lines of obscure code. Once again, the package is recommended for interactive presentations, sales promotions or purely for display and distribution of in-

formation. Also from Computermate (02) 457 8118 - RRP \$279.

Dunlap rescues damaged disks!

● Among a host of other amazing utility functions, Dunlap Utilities will fix read/write errors on your hard drive or floppy disk, recover deleted files, revive sick disks, and optimise for faster Workbench delivery. There's lots more. Auto screen blanking, IFF menu application launching, customise your Workbench, create a full menu driven turn-key system and generally tidy up. Dunlap sound like essential stuff. Available from Computermate - \$119 RRP.

Hard-drive backup

● Starsoft have a new one minute per megabyte hard disk backup program, complete with data compression. The interface allows for either complete, incremental (y creation date or archive bit), or selective archiving or restoring of files. Floppies do not have to be preformatted. Sounds great. Distributed by Pactronics (02) 748 4700.

Benchmark products supported locally

● Laser Image Technologies are importing directly from Avante Garde Software, L.I.T. the entire Benchmark range of products. Benchmark Module-2 is not a port from another machine - it's a simple language with plenty of power built on the Amiga from the ground up. All hardware and software features of the Amiga are supported.

The Construction Set includes a full screen multi-window editor, compiler, fast linker and a number of utility programs. Nearly 100 pre-compiled library modules are also included. Module-2 Software Construction Set sells for

\$260. Other products include a Simplified Amiga Library, Simplified C Library, Simplified IFF Library, and Source Level Debugger. For further details call (03) 578 0868.

Amiga helps with Lockerbie disaster

● Dumfries and Galloway Police have been using the Amiga 2000 help reconstruct the site of the Lockerbie air crash so they could work out what happened prior to the disaster. Using a video frame grabber, with image enhancement software, the police are able to enhance video material prior to printing out on a Polaroid freeze frame recorder.

Colourpic frame grabber

● A new real-time colour

digitiser has arrived with full PAL support. Features include framestore, a 192K expandable frame buffer (up to 512K), monochrome edge detection and image manipulation tools, flicker illumination with field repeat, external power and full 15Bit RGB colour data. Pictures are saved in IFF format, with full support of HAM and 32 colour modes as well as overscan. Available from Computermart (09) 328 9799.

Amiga wins video award

● USA magazine Video Manager recently voted the Amiga 2000 as "Product of the Year" in its category of "Most helpful in the performance of your job." Combined with other winners, Sony video cameras and Panasonic VCR's, the Amiga is no doubt the ideal video partner. □

AMIGA PRODUCTS

Hard disk drives ready to use from \$890.

External Slimline disk drives, with switch \$200.

Memory Boards in stock.

Starcursor joysticks \$54.00.

All Packtronic and ECP products available. New Abacus Amiga manuals in stock.

Quality Computer and printer accessories.

Latest Amiga Magazines, Australian Commodore and Amiga Review, other overseas publications and software available.

Bi-monthly Amiga workshops. Next meeting on Sunday the 1st April. Ring for details.

New Star FR10 colour printer in stock.

WHITE'S COMPUTERS

"Service is our motto"

(02) 634 6636

37 Daphne Ave. Castle Hill 2154.
Bankcard/Mastercard/Visa Welcome

Computa Magic Pty. Ltd.

Shop 5 30 Hall Street, Moonee Ponds, Victoria. 3039

Phone (03) 326-0133

Fax (03) 370-8352

A NEW SERVICE AVAILABLE NOW MAIL ORDER ON A DISK

A COMPREHENSIVE LISTING OF OVER 1500 PRODUCTS INCLUDING
OVER 1200 SOFTWARE TITLES FOR AMIGA
AMIGA HARDWARE, PRINTERS, ACCESSORIES AND DISKETTES
BOOKS MAGAZINES JOYSTICKS Mouses AND MORE
SEND \$3.00 TO COVER HANDLING FOR YOUR COPY

DISKETTES

RED SPOT BY KAO 3.5 DSDD BOXED GUARANTEED \$15.95

AXIOM BY KAO 3.5 DSDD BOXED GUARANTEED \$19.95

RED SPOT 5.25 DSDD BOXED GUARANTEED \$8.95

AXIOM 5.25 DSDD BOXED GUARANTEED \$10.95

BUY 10 BOXES OF 3.5 AND WE WILL SHIP TO YOU FREE



LETTERS TO THE EDITOR

Superbase 64 problems

● In May 89 I bought *Superbase 128* version 3. My copy has the 1581 disk drive support but no burst mode when using the 1571 disk drive.

I have since heard that the wrong programs had been released in Australia and that we should have the version with burst 1571 ability and no 1581 drive support.

What is required for me to obtain the correct version?

Alan Ross
Lynwood WA

Ed: Ask your retailer which local distributor supplied the product and contact them directly! The correct disk should be available.

Where are all the pirates?

● As an interested computer user I would like to bring to your notice the fact that Software Piracy

is not limited to those who import, sell, trade or buy pirate software.

Some of the biggest offenders whom the software companies appear to be overlooking (perhaps the biggest in terms of people, both adults and school age children who then spread it amongst their mates faster than any seller could hope to) are the so-called Amiga User Groups.

Not mentioning names, but one particular User Group in the suburbs of Sydney is a blatantly obvious software swap, exchange, copy centre. On a nightly meeting alone I would guess that at least 100 or more programs are present for the above stated reasons.

People do not want to buy (even for a few dollars) what they can get "free". Most of the user members are not interested in programming, graphics, etc, only in swapping or obtaining "games". It is here that a solution to software piracy commences. Stop it here and I believe that a great percentage (perhaps the greatest percentage) of piracy can be stopped.

Name and address supplied

Ed: Hear, hear!

Amiga baud rate fix

● In the January issue of *ACAR*, I read that Greg Parry was having problems with running the serial port at 19200 baud. I also had these problems, but they disappeared once I installed Workbench 1.3.2. However, I don't know why WB 1.3.2. fixes the problem except that the lower overhead of the new serial device might have something to do with it.

Luigi Martin
Dandenong, Vic 3175

Where's our A2000 C64 emulator?

● Being ardent supporters and users of the famous C64 we feel we have no option but to express to

you our current dissatisfaction with the delays in bringing out a C64 emulator for the Amiga 2000 as conveyed to us by a major SA authorised Commodore dealer eons ago.

We are in the position, like many other C64 users, in that we wish to upgrade to a more powerful Commodore IBM compatible but are faced with the sad tragedy that we will be forced to sell off or give away thousands of dollars worth of C64 software we spent years patiently buying. This is especially heart-wrenching when one realises that we have to start purchasing software from scratch again!

We realise that C64 emulators (as slow as they are) are already produced for the Amiga 500 and 1000. But this is of little consolation since the Amiga 500 requires expensive add-ons to make it IBM compatible and the 1000 is out of production. Clearly there is an enormous market for this type of product if coupled with the Amiga 2000 simple because C64 users do not wish to "throw away" their hard-earned software.

Please, please, Andrew, cause a stir about it and let us know the latest information, if any.

THE C64 LIVES ON!

PS The magazine is tops.

Andrew and Angelo
Adelaide 5000

Ed: Our A500 C64 Emulator II operates happily on the A2000, so unless you are hoping a more complex and functional emulator is released for the A2000 - which is highly unlikely - the solution to your problem already exists.

Have you further considered that having lashed out over \$2,000 on an A2000, it is unlikely you will continue using any C64 programs because there is so much good Amiga software which is umpteen times better. If price is a consideration may I suggest that even Public Domain titles at \$6 a disk will provide you with better quality software than any C64 emulator. □

Commodore Annual 1990

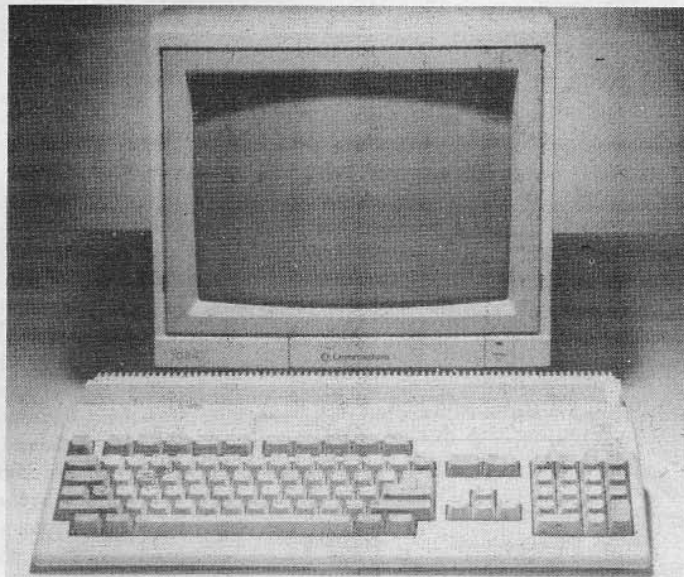
Produced by the editorial staff of
Australian Commodore and Amiga Review

- ☆ Complete list of software available in Australia with description, price, etc
- ☆ User Group List
- ☆ Bulletin Boards
- ☆ Product reviews
- ☆ And lots more!

On sale at newsagents and
computer dealers \$6.95

Or by mail order from Gareth
Powell Publishing, 21 Darley
Road, Randwick 2031.
Phone (02) 398 5111.
Please add \$1.00 P&P.

IF YOU'VE BEEN CLEVER ENOUGH TO BUY THE WORLD'S SMARTEST COMPUTER, JOIN THE CLUB.



**MEMBERSHIP OPEN TO:
COMPANIES, INDIVIDUALS,
AMIGA USER GROUPS, SCHOOLS
AND TERTIARY INSTITUTIONS.**

BONUS GIFT



**Join Club Amiga now and receive a Textcraft
Plus or Graphicraft program at no extra charge.
(Each program normally retails for \$89.)**



**Membership includes one year's subscription to
Commodore Amiga Review and Commodore Amiga
Review Annual, newsstand value over \$42.**

By choosing an Amiga, you've already put yourself one step ahead of the average computer owner.

Because the Amiga is so much more advanced than the conventional PC, it's like comparing an old fashioned record player to a compact disc system.

In fact, part of the fascination of owning an Amiga is that we're still finding out how far we can push it.

Exciting new programs and applications are being developed all the time as we explore the Amiga's outstanding computing and graphic capabilities. That's why you'll find membership to Club Amiga so rewarding. You'll receive a Commodore Amiga Review each month and the Commodore Amiga Review annual to keep you informed of the latest developments in Amiga applications and software.

You'll also be receiving a regular Club Amiga newsletter to keep you up to date with the latest developments.

In fact, if you join Club Amiga right now, you will receive, at no extra charge, an exciting software package worth \$92

That's worth more than half your membership fee already! That's just one of the ways Club Amiga will help you get the most from your Amiga system.

So why not do the smartest thing since buying an Amiga. And join the Club!

SUBSCRIBE NOW AND CLAIM YOUR BONUS. CLUB AMIGA MEMBERSHIP APPLICATION FORM

Name: _____ I enclose my cheque for \$180.00 and agree to be bound by the terms and conditions of membership to Club Amiga.

Address: _____

Postcode: _____

Ph. No. _____ I authorise Commodore Computers to debit my ☐ Bankcard ☐ MasterCard account for the amount of \$180.00.

Male ☐ Female ☐

Age: Up to 18 ☐ to 25 ☐
26 to 34 ☐ 35 to 49 ☐ Over 50 ☐

Married ☐ Single ☐

Children 0 ☐ 1-2 ☐ 3+ ☐

Occupation: _____ My card number is: _____

Is your Amiga used mainly for Business ☐ Pleasure ☐ I understand I should receive my CLUB AMIGA membership package within 4 weeks.

Bonus offer *Selection: Textcraft ☐ Signature: _____
Graphicraft ☐ Neither ☐

Club Membership Joining Fee \$50.00. Date: ____/____/____
Annual Subscription \$130.00.

Yes, I would like to become a member of Club Amiga. Send to: Club Amiga, 67 Mars Road
LANE COVE NSW 2066

**CLUB
AMIGA™**
BY COMMODORE*

JSA COM0383

C64 Video Byte Digitiser

by Andrew Farrell

If you own a VCR or black and white video camera, you're ready to get into video digitising.

VIDEO BYTE III has arrived in Australia, offering complete digitising abilities for the C64 for an affordable \$165. The results can be used in your favourite graphics program, or transferred onto a T-shirt by means of specially inked ribbons.

First of all, what is a digitiser? Using a home computer, such as the Commodore 64, you can digitise a sound or an image. Both of these possibilities arrive at the required interface as analogue signals. Both sound and light travel in waves. By representing these waves by numbers, the analogue signal is effectively digitised. The numbers can then be used to reproduce the sound or image on screen or through the TV speaker.



Where pictures are concerned, the incoming signal is analysed by the digitiser and each point of light on your screen is assigned a value representing the light intensity from white to black. Software can then be used to alter the digitising process to achieve the most desirable results.

Video Byte III is such a device, and includes both software and hardware. The interface which enables a video signal to be input to the C64 is connected to the User Port. As it arrives, the digitiser is ready to use, although some adjustments can be made later on to get the best video signal. (A small pot adjusted using a small screwdriver allows the Gain setting to be increased - our review unit did not need adjusting.)

The interface includes a lead which may be connected to an RCA type video out socket on your video camera or VCR. We used a BNC connector - one which is commonly found on most consumer VCR's. A small adaptor enables the RCA cable and BNC plug to connect.

Rather than examine all the various menu options, I dived in and tried out our office B/W security camera.

The results were acceptable. Being an impatient sort when it comes to new products, I decided not to fiddle with the lighting, focus, subjects and angle of the camera to achieve the best results and progressed immediately to the more promising possibility of capturing frames live from a rolling video tape.

With the VCR connected, I went to Adjust mode, which presents a new image every two seconds. This enables you to adjust any settings on your camera, or in this case, roll the video tape to the right position. At first I tried using the pause facility to provide a still image for digitising. The results were rather dismal,

although on a high quality VCR with a steady still frame I am told the results are quite good.

Cheaper models tend to distort the image, and there's always the possibility of capturing part of the frame refresh even on a high quality machine.

So, the next option was real time - which I half expected not to work. I was amazed to see the results were immediate and of an excellent quality considering the resolution of the C64 in multi-colour mode. It's a bit of a hit and miss process. I found, as recommended by the manual, that it is best to position the tape to a section where the scene does not involve a lot of action. After doing so, I hit the C for Capture key several times until the image you can see on the front cover appeared. There were no finicky adjustments, just instant results. I'm impressed!

The sample time is too high to call this true real-time frame grabbing, but it is just fast enough to be able to grab slower moving images.

Of course, the real fun comes in grabbing an image that would look good on a sloppy joe, tank top or T-shirt. Using the included software, you can add colour and then print your creation - edited, or as captured - onto normal paper. Then, with an iron, you just plaster it on, carefully!

Video Byte software

- Booting the main disk provides a menu with a number of utility programs and the main program, *Video Byte III*. The utilities include a program to allow a slide show to be viewed (create your own or view the included demonstration images), and a program to handle printing on a 1526 printer.

From the main menu of the main digitising program you can adjust the exposure or light level using the + and - keys. The A key gives you a digitised image every two seconds of not quite as high quality as the real captured graphic called a "clarified image" in the manual - I assume some software enhancement of the image therefore takes place automatically.

Previously sampled images may be loaded and of course you can save images too - however the file requester is bare. You'll need to know exactly what an old file was called! (Although D will give you a directory.) Colour may be added using the V option which displays the image and then activates the 1-5 keys. Each key will shuffle a colour register through each of the 16 available colours, and the five keys will shuffle all four colour registers together. In V mode, the + and - keys will bump you back into grey scale mode.

Two images may be in memory at one time, and you can switch between them as required. A print option is included, although we used the digitiser combined with the Super Explode cartridge which has more sophisticated print facilities. The two cartridges together make an ideal combination. You can switch into the Super Explode cartridge menus directly from the Video Byte software using the E option.

As with any digitiser, at the end of the day your results will depend largely on the quality of all your equipment combined.



Good lighting, a good subject and a good camera help. A good operator is more important - one with plenty of patience. The best part about the ability to digitise an image, is the ability to print it out. And where better to put the end result than on a T-shirt. Using a special ribbon and the colour Star NX1000 printer, impressive results can be obtained as illustrated on these pages and our front cover.

Many ideas spring to mind, including starting your own bureau for custom shirts. "Send in a disk and I'll put it on your shirt" type services would do well. Ideal for user groups, small businesses and just a bit of fun.

NEXT MONTH: Super Explode cartridge reviewed.

For further information see the advertisement on this page or telephone Romac Computers on (02) 547 2306. □

VIDEO BYTE II the only **FULL COLOR!** video digitizer for the C-64, C-128

Introducing the world's first full color video digitizer for the Commodore C64, 64-C, C-128 & 128D computer. VIDEO BYTE can give you digitized video from your VCR, LASER DISK, B/W or COLOR CAMERA or OFF THE AIR or CABLE VIDEO (thanks to a fast! 2.2 sec scan time). New version 3.0 software features full RE-DISPLAY with MULTI-CAPTURE MODE, MENU SELECT PRINTING, EXPANDED COLORIZING FEATURES, SAVE to DISK & much more!

FULL COLORIZING! is possible, due to a unique SELECT and INSERT color process, where you can select one of 15 COLORS and insert that color into one of 4 GREY SCALES. This process will give you over 32,000 different color combinations to use in your video pictures. **SAVES as KOALAS!** Video Byte II allows you to save all your pictures to disk as FULL COLOR KOALAS. After which (using Koala or suitable program) you can go in and redraw or color your V.B. pics. **LOAD and RE-DISPLAY!** Video Byte II allows you to load and re-display all Video Byte pictures from inside Video Byte's menu. **MENU DRIVEN!** Video Byte II comes with easy to use menu driven UTILITY DISK with V3.0 digitizer program. (C64 MODE ONLY). **COMPACT!** Video Byte II's hardware is compact! In fact no bigger than your average cartridge! Video Byte comes with its own cable. **INTEGRATED!** Video Byte II is designed to be used with or without EXPLODE! V5.0 color cartridge. Explode! V5.0's menu will return you to VIDEO BYTE II's menu. **EXPLODE! V5** is the **PERFECT COMPANION!** Video Byte II users are automatically sent **FREE SOFTWARE** updates along with new documentation, when it becomes available. **PRINT!** Video Byte II will printout pictures in BLACK AND WHITE GREY SCALE to most printers. However when used with Explode! V5.0 your printouts can be done in FULL COLOR 8 by 11's SIDEWAYS on the STAR NX-1000C, JX-80. (OKIDATA 10/10's (print larger 6" by 9")) **USER SLIDE SHOW** program w/auto or manual display is standard with VIDEO BYTE program. And can be backed up! **Why draw a car, airplane, person or for that matter... anything when you can BYTE it... VIDEO BYTE it instead!**

ONLY
\$165.00
+\$3.50 P&H

ROMAC COMPUTERS, PO BOX N122, PETERSHAM NORTH, NSW 2049. (02) 547 2306. Phone and mail orders accepted.

NEW! SUPER CARTRIDGE by The Soft Group EXPLODE! V.5

The **MOST POWERFUL DISK DRIVE and PRINTER CARTRIDGE** ever produced for the COMMODORE USER. Super **USER FRIENDLY** with all the features most asked for.

New FEATURES... (a) Faster non-blanking FASTLOAD. (b) MIRROR imaging of all HI-RES screens. (c) 4 Way color selection with insert, for all HI-RES screens. (d) Infinite FILE COPY for all SEQ. & PRG. files, copy your file once only, then write that file to as many disks as you like... great for single file copying by small user groups. (e) **FULL COLOUR PRINTING of ALL COLOR HI-RES & MULTI-COLOR SCREENS to ALL COLOR DOT MATRIX PRINTERS** (not for INK JET printers). (f) Direct one key access back to Video Byte software thru EXPLODE! V5.0's 2nd MENU. (g) Supports all popular printer interfaces. (h) **FREE** upgraded utility disk.

SUPER FASTLOAD and SAVE (50K-95ECs) works with **ALL C-64 or C-128's NO MATTER WHAT VINTAGE** or disk drives EXCEPT the 158, M.S.D. 1 or 2, **SUPER FAST FORMAT** (8 SECs) - plus FULL DOS WEDGE w/standard format! **SUPER SCREEN CAPTURE.** Capture and Convert **ANY SCREEN** to KOALA/DOODLE. **SUPER PRINTER FEATURE** allows ANY DOT MATRIX PRINTER even 1526/802 to print HI-RES SCREENS in FULL COLOR (using 16 shade GREY SCALE). ANY PRINTER or INTERFACE COMBINATION can be used with SUPER EXPLODE! V5.0. NEW and IMPROVED **CONVERT** feature allows anybody to convert (even text) **SCREENS into DOODLE or KOALA TYPE PICTURES w/FULL COLOR!** **SUPER FAST SAVE** of EXPLODE! SCREENS as KOALA or DOODLE FILES w/ COLOR. **SUPER FAST LOADING** with **COLOR RE-DISPLAY** of DOODLE or KOALA files. **SUPER FAST LOAD or SAVE** can be turned OFF or ON without AFFECTING the REST of SUPER EXPLODE'S FEATURES. The rest of Explode! V5.0 is still active. **SUPER EASY LOADING and RUNNING** of ALL PROGRAMS from the DIRECTORY. **SUPER BUILT-IN TWO-WAY SEQ or PRG file READER** using the DIRECTORY. NEVER TYPE a FILE NAME AGAIN when you use SUPER EXPLODE'S unique LOADERS.

CAPTURE 40 COLUMN C or D-128 SCREENS! (with optional DISABLE SWITCH).

All the above features, and much more!

PLUS A FREE UTILITY DISK w/SUPER EXPLODE! MAKE YOUR C-64, 64-C or C-128* D-128* SUPER FAST and EASY to use. THE BEST THING or ALL... IS THE PRICE!!! Still only \$85.00 or w/disable switch \$90.00. (* in C64 mode only)

ONLY
\$85.00
+\$3.50 P&H

Also **HEAT TRANSFER RIBBONS** for MOST DOT MATRIX PRINTERS. Allows you to IRON-ON, in SCREEN-PRINT QUALITY, your video images or computer graphic masterpieces in **FULL COLOUR**. T-SHIRTS etc. **COLOUR FAST!** single colour or 4 colour. Ring for price and availability.

C64 video magic

by Scott Wilcox



YOUR COMMODORE 64, or any Commodore computer, has the chance to hit the big time. Yes, it's time all those people who ask the question "What can I use a computer for anyway?" get an answer that is not just another sales pitch.

If you have a VCR, have you thought of video titles? Linking together your C64 and video recorder is pretty easy - and you could use any good graphics program to make titles. Here's what you should do:

Printer Ribbons

COMMODORE		
MCS 810/20	16.95	Epson FX/MX80 13.50
* colour	17.75	Epson FX100 15.50
MPS 801	11.75	Epson LX800 13.50
MPS 802	12.00	Epson LQ500 15.00
MPS 803	11.00	Epson LQ1000 17.00
MPS 1000	8.75	OKI 183 12.00
MPS 1200	12.50	P'sonic/Logitec 12.50
MPS 1230	26.50	Riteman C+/F+ 16.00
MPS 2020	20.25	Star NX10 12.50
* 4 colour	28.50	Star NX15 14.75
TP 8023P	15.50	Star N24-15 18.95
VIC 1520	16.50	Star NX1000 8.75
		* 4 colour 22.50
		Star NX24-10 18.50

- quantity discounts for 6+, 12+, 24+
- many other types available
- single colours available at a surcharge
- all these (except MCS 810/20) recyclable (reink or reload)

D-I-Y RIBBON RECYCLING

REINKING MACHINES :\$190

ROLLED RELOADS to fit most cartridge types (black, colour, 4-colour): POA

Lazarus Ribbons

70 Wolseley Rd tel: (02) 960 2737
Mosman NSW 2088 (008) 24 9991
fax: (02) 968 1276

Step 1: Set up your video recorder in the usual manner, just as though you are going to watch a movie. Take a look at the back of your video recorder and remove the cable going to the "Video In" socket. You will not receive TV signals while the cable is removed. Hopefully you will receive computer signals later on.

Step 2: Take the video cable supplied with the C64 and plug the 64 into the "Video In" socket. Now turn on your 64, the TV and the video recorder. For the paranoid, this is quite safe if the steps are correctly followed.

Step 3: This is the tricky part. Just as you fine tuned the TV channels into the channels of your recorder, you must now tune the 64's frequency into an unused channel on your recorder. All you have to do is set one of the video recorder's channels to UHF 36. When this is all correct you should see the normal power-on message on your TV screen (see page 5 of the user manual and remember, fine tune on your VCR, not on the TV).

Note: When I got the idea for this linkup, I had no knowledge of how to actually hook it up. The small operation only took about 10 minutes the first time, and I am no electronic genius.

What for?

● Yes, you may ask why we are going to all this trouble, so I will explain some of the many uses this link-up has for the average user. The hook-up will be of greater benefit to your video recording than to your use of a computer.

Blank tapes

● Remember when you first bought that blank tape and now it's covered with recordings that you don't even want over recordings that have the same useless existence? I bet you wish you could get that tape to play back a black screen as it did in its early days.

Here is the simple answer. Simply use your favourite WYSIWYG word processor or graphics program to create a title screen. Then set up a black screen to clean out your old tape. Rewind your

blank tape to the beginning and record the computer's signals. Let the tape record right through, then rewind the tape and it's as good as new, or at least it looks that way.

Titles

● When you rent a home video, you see a title displayed at the beginning of the tape, so you know exactly what you are watching.

The same can be done to movies you record from the TV (be careful not to infringe copyright laws). When you have selected the movie you wish to record, simply use the screen you created earlier.

Now, just like blanking a tape, you rewind the blank tape and record the picture for as long as you wish to view it when played back. The tape is now ready to be recorded on. If you set the timer to record at a later date, be sure the tape has been stopped at a point just after the end of the title recording.

This method can also be used for home movies on your video. If you own a video camera you can put the place, date and things such as directors' names etc. This will give your movie the professional look.

Animation

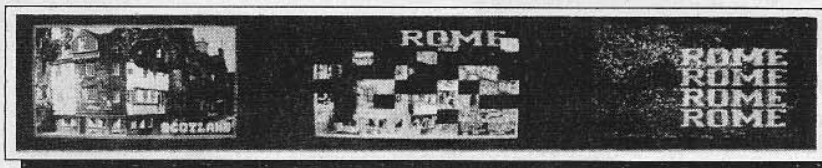
● This would have to be the best application for the computer video link. If you are an adequate programmer, you could use the link to make small animated cartoons with text at the bottom of the screen, just like a silent movie. The main section of the animated movie could be made using sprites and redefined characters. By making small cartoons controlled by the computer, you then record each one as the computer animates the picture, and have the whole video broken up into about five or six separate sections.

Do not attempt to take the movie frame by frame, as this will take hours and the start/stop method might not be the best for the video recorder.

You might even think of a few more applications other than the ones listed here. □

Video and the Amiga

by Peter Ward



AMIGA

A RATHER REMARKABLE television program was broadcast in Sydney last Christmas eve on SBS television. Called *Computer Dreams*, it was a showpiece of computer animation and video montage levelled at the "state of the art". Dedicated workstations rendering images in 16 million colours were used for many of the simply astounding animations.

I should not have been surprised when I saw a Commodore Amiga appear on the television screen, but there was an Amiga 2000 being used by Heidi Turnipseed to create a "cell animation", the artwork from which many *Photon Paint/Video* users would be familiar.

To be fair, the Apple computer people were represented, though I noticed that the workstation being used for "their" animation was definitely not a Mac. IBM? well, sort of; if mainframes at the Thomas J. Watson Center count. Cray Computer Corporation, NASA, Jet Propulsion Labs, Boeing and a few other hi-tech notables using various mainframes were in there also.

Taking note of the final credits read like a who's who in Amiga software. Conclusion: when cost is considered, there is simply no better personal computer on the market for video and graphics applications than the Amiga. Further, even when cost is not considered, an Amiga 2000/2500 with say four megabytes of 32 bit RAM, hard disk, 68030, plus a graphics transputer rendering say, *Sculpt 4D* images in 16 million colours, is still up there with state of the art workstations costing four times as much!

After seeing the program, I was inspired. I wanted to create. I made phone calls. I talked with Warwick Ford at Neriki, I discovered that none other than NASA had ordered some 25 (!) of their genlocks, to use with Amigas to get their video creations on tape. So what, perhaps I didn't have a few billion dollars to spare and send a mission to Mars, but with an Amiga I could at least get it on video.

I soon discovered that the best way to learn what you need and "how to do it" is to look at a few case studies, examine the

process and the pitfalls, then decide what equipment meets your individual needs and budget.

Editing methods

● We need to digress at this point, and mention the two main editing methods available to the home or semi-professional user to compile the various scenes of a video movie or computer animation into your video masterpiece. An "assemble edit" is to place various scenes one after another, to eventually build the finished production.

If you decide to substitute one scene in the sequence for another, you will have to re-record all of the scenes that occur after the substitution. Failing to do so will result in picture distortion at the "edit-out" point. Most domestic VCR's are limited to this method of editing.

An "insert edit" avoids this problem but is only available to users of VCR's with "flying erase heads". Scenes can be inserted anywhere in the sequence with no picture distortion at the edit-in or edit-out points. The story does not quite end here. There are also Cut, Dissolve, Key, Split and Wipe edits. The latter editing techniques are generally restricted to professionals requiring several professional format VTR's to be accomplished.

Even at professional editing levels, the Amiga has found a new presence. Microillusions have recently released their Edit Decision List Processor (EDLP) and SMPTE time code generator hardware. Aimed squarely at the professional market, this package allows creation of precise editing sequences on professional VTR's.

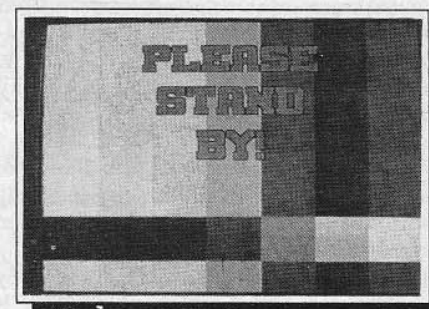
Simple titles

● So, on to case study number one. To place a title or graphic at the beginning of a home video movie. Requiring a minimum of equipment and software, it is easily within the reach of any Amiga owner with a VCR and video-movie camera. Amiga 1000 owners have an advantage in having a video encoder built into their machines, so provided quality need

not be of great concern, the VCR and camera is all the hardware that is necessary for them.

For the rest of us, acquisition of an encoder or genlock/encoder is mandatory. The procedure is simple. Create the title/graphic using your favourite paint package, connect the video out from the computer (or encoder) to the "video in" socket on the VCR. Record the computer graphic. Then using either the pause button on the VCR assemble-edit in the remaining home video footage or insert-edit the video scenes of your choosing.

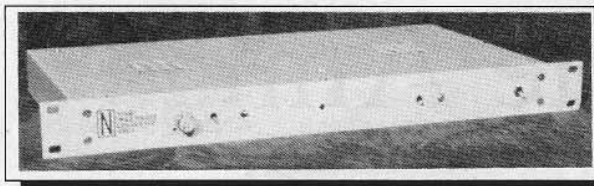
A typical sequence in this instance would be: Amiga title shot, followed by various scenes, maybe another title, some more video, then cut to "That's all folks" at the end of a sequence. You will soon discover assemble-editing is a pain, as you cannot change an opening scene without re-recording what follows as well. Insert-Edit capable VCR's remove much of the drudgery associated with assemble edits.



Which VCR?

● To acquire this highly desirable insert-edit feature you will eventually travel through the consumer electronic jungle of VCR's to discover that there are not many machines which will let you "insert-edit" and play a movie from the local video hire establishment.

Fortunately both Sony and Panasonic have recently introduced VHS decks with flying-erase heads and insert edit capability, however, a step up in quality to the realm of Super-VHS will reveal features and picture quality rivalling professional equipment for a moderate increase in



The Neriki Genlock

price. The JVC 5000E and the recently released Panasonic NV-FS100A are two good examples.

Insert editing, Hi-Fi Stereo sound, audio-dubbing and 400 horizontal lines resolution make them particularly attractive. The latter also has a "jog-shuttle" dial which aids tremendously in finding an exact edit-in or edit-out point on the tape. A second NV-FS100A can also be linked to the original unit via an editing controller, thus creating a "mini edit-suite" at reasonable cost for the home video-phile.

Another excellent format for editing is Video-8. Sony's EV-S850PS VCR features a Jog-Shuttle dial, Flying-erase heads, digital stereo sound and the ability to be linked to an editing controller. Sony have recently released the Hi-8 format, having a horizontal resolution of 400 lines placing it in direct competition with Super-VHS. Though professional machines are now available in the Hi-8 format, high end domestic versions are yet to be released in Australia.

The video-taped quality of the computer created title depends upon three major factors: the screen resolution used in the computer generated title, the bandwidth of the encoder used to convert the title into composite video, and the quality and format of the VCR used for the final recording.

A secondary factor is the choice of colours used in the title screen; highly saturated colours tend to "bleed" when transferred to tape, and despite looking great on your Amiga's RGB monitor, they will be a soggy mess on video tape. If you really must have big red letters introducing your video, consider placing a one pixel wide, black (or white) border around the title lettering: this reduces the

"bleeding" on the video-taped copy.

Encoder bandwidth or resolution need not be brilliant. There is little point in using a full bandwidth "broadcast quality" 625 line encoder or genlock/encoder if you are recording a home movie title onto a standard VHS format video cassette recorder.

The best resolution your VHS machine can give is approximately 200 to 240 horizontal lines.

Consequently, the result you get from an A520 television modulator or composite video-out port on the A1000 will not be too different from that obtained by using a \$3000 broadcast encoder when recording on VHS. Essentially, the "video" chain is only as good as its weakest link.

Just to confuse the matter somewhat, the accuracy of the encoder, being its ability to preserve the saturation, contrast and hue of the colours used in the original title on your Amiga, is of some importance.

This is where using an A520 encoder will degrade the final result. The Neriki genlock/encoder series made by the Australian company Fordray Manufacturing is one of the few encoder/genlocks which address this latter point. Their encoder section actually enhances the video signal so that it remains well saturated even when transferred onto video tape.

So, for simple cuts from title screen to the video movie using an encoder, such as the Commodore 520, will give acceptable results on VHS. For better quality use a broadcast quality encoder (JVC make one) and part with several thousand dollars in the process. A better solution yet, which also gives you the ability to superimpose titles over the background of your home video, is to use a genlock.

Superimposed titles

● Case study number two: edited video footage with superimposed animated titles. To further manipulate your original video footage life can be made



Superimposed titles

decidedly easier by the addition of a second VCR. The final version of the edited footage, can then be mixed with computer graphics using a genlock to overlay titles or special effects to enhance the production. This however, is not the only way to achieve this result.

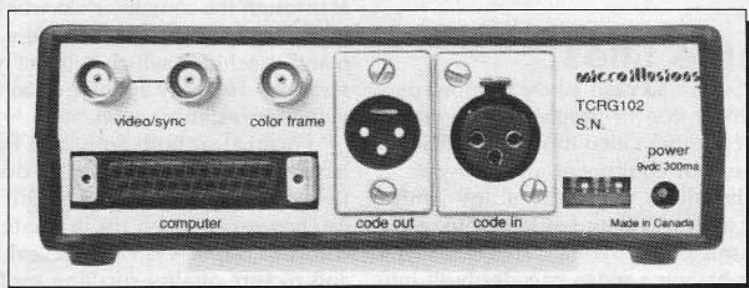
While it is possible to add computer graphics to footage from a video-camera while simultaneously editing the two onto a single VCR, the process tends to get messy, especially when one has to assemble-edit the video-tape. Using a Genlock in conjunction with the Amiga's colour zero function can also allow you to perform Key edits from a title screen to background video (or the reverse).

An important point to note, is that the ability to dissolve titles in and out with the Amiga depends upon the genlock, and not the software as is commonly supposed. Using the colour cycling ability of the Amiga to fade to colour zero or black through successively darker shades of grey will simply result in some nearly black lettering overlaid on top of the background video before it disappears. You can cheat however.

Cycling to black when overlaying a graphic on a black portion of the background video (or white on white) can have limited success. Using a genlock with an "RGB pass-thru" will also help immensely, as the title or graphic can be viewed on the Amiga monitor prior to recording onto video tape. Both Ausgen and Neriki genlocks have this feature, with the Neriki also having the highly desirable fader control.

Which software?

● To create an animated title sequence for your video, there are a plethora of software packages available to Amiga users. *Deluxe Paint III* and *Photon Paint 2.0* both allow quick and easy title creation with animation. More specialized title packages such as *Video Titler* and *Broadcast Titler* allow sophisticated text animations and wipes. *Photon Video* is an



Microillusions time code reader/generator (rear panel)

Over One Million Amiga computers have
been sold worldwide.

As an exciting component in a child's
education, Amiga is a sound investment.

Why not give your children the educational advantage?

In fact, the Amiga 500 and the Amiga 2000
are two of the most advanced educational
computers available.

Their features include the ability to expand
as far as a child's willingness to learn.

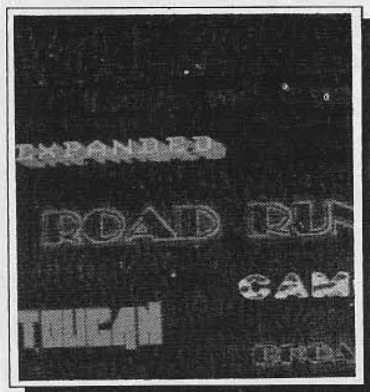
A huge software base that's constantly
growing to keep pace with the latest in technology
and knowledge.

Plus a whole range of other uses including
graphics, animation and synthesized sound.

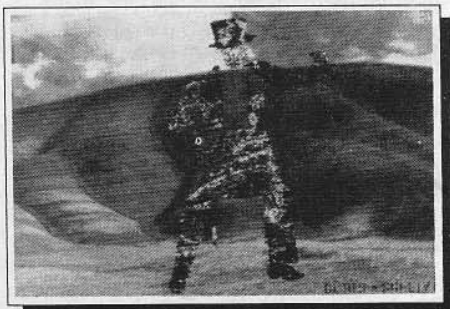
If you're clever enough to buy an Amiga
computer, imagine the boost it will give your
child's education.



Commodore



Aegis Video Titler



Deluxe Paint III

excellent package which allows the user to easily synchronize digitized sounds with traditional cell animations.

A package which has remained very much a "dark-horse" in the cell animation arena is *Zoetrope*. On first inspection Lo-Res, no sound and NTSC format seem to make it unsuitable for serious applications or PAL Amigas. *Zoetrope* however, is FAST and does not require heaps of memory.

Low resolution is also compensated for by having an anti-aliasing function that puts *DPaint III* perspective brush rendering times to shame. From start to finish, you can create an 80 frame animation which spins, swoops and soars within five minutes, and with only one megabyte of memory.

Memory requirements

● Most titling or animation programs are however, RAM hungry and it is at about this point that the need for more memory becomes apparent. Fortunately chip prices have fallen dramatically in the last few months. Memory expansion for Amiga 2000/2500 owners is relatively painless, simply shop around for the most economical card and plug it in. Amiga 500 and 1000 owners are less fortunate, and often have had to open the case, install daughter-boards, jumper-

leads and configuration programs.

A strong recommendation is that A500/1000 owners should take a hard look at the Minimegs line of memory expansion, which is locally manufactured, competitively priced, simply plugs into the side to the computer and auto-configures in the process. Another way out is to purchase an external hard drive with a memory expansion bus, thus not having to pay too many additional dollars for memory expansion.

Once armed with extra memory, several exciting video feats are within reach. Animations can become longer, more detailed, using more colours and in higher resolutions. It is also at this point that using floppy disks to store even moderately long or detailed animations is tedious. At some point, the use of a hard disk becomes mandatory.

Amiga 2000 owners have a good range to choose from at moderate cost and really don't have a problem. Several hard disk drive manufacturers have also recently introduced models for use with the A500, though they are somewhat more expensive than an equivalent A2000/2500 drive. By now you may have noticed the equipment list is beginning to get out of hand, as probably is the amount owing on your Visa/Mastercard!

The Works!

● Acquisition of all of this equipment leads us to: case study number three. Home-Video with ray-traced three dimensional animated titles edited in sync to a Hi-Fi Stereo musical soundtrack.

Amiga owners have two excellent programs to choose from, *Sculpt 4D* and *Turbo Silver*. Though moderately expensive, these packages can create animations rivaling those created by dedicated video-workstations. Anyone who has used either *Turbo Silver* or *Sculpt 4D* will appreciate the fact that ray-traced animated titles can take a long time to render on a stock standard Amiga.

A single frame of an animation can take six to eight hours to render. A five second animation requiring 125 frames will tie up your Amiga for weeks! To speed up the process use one of the various "accelerator cards" now entering the market. Again, provided they have the dollars Amiga 2000/2500 owners simply install a 68020 or 68030 card into a vacant slot.

The accelerator of choice for A500 owners would be the Midget Racer by CSA. Amiga 1000 owners should consider the Lucas Board, schematics of which are available through various BBS's or

user groups. Using such accelerators can reduce computing times by a factor of ten or more.

Having solved the problem of creating the slick computer graphics to be included in your video one can now look at the problem of synchronizing the scenes of the video (or graphics) to music. One solution is to create your own original score, with the tempo of the score matching the change in visuals.

Another is to use a time-coded video tape, and using either SMPTE or EBU time code standards one can precisely number and hence synchronize to audio the individual frames of a video tape. Many professional VCR's have the facility to display the time code on a video tape, with Sony U-Matic machines being the industry standard.

Entry price of these machines is usually around the \$10,000 mark. For those of us who are not quite that creative, or wealthy, there is a simple trick. Record the output from a CD-player, tape, LP recording or whatever, without any picture considerations. Nearly all insert-edit capable VCR's will allow recording of Hi-Fi Stereo and concurrent mono sound utilizing a simulcast (or similar) function.

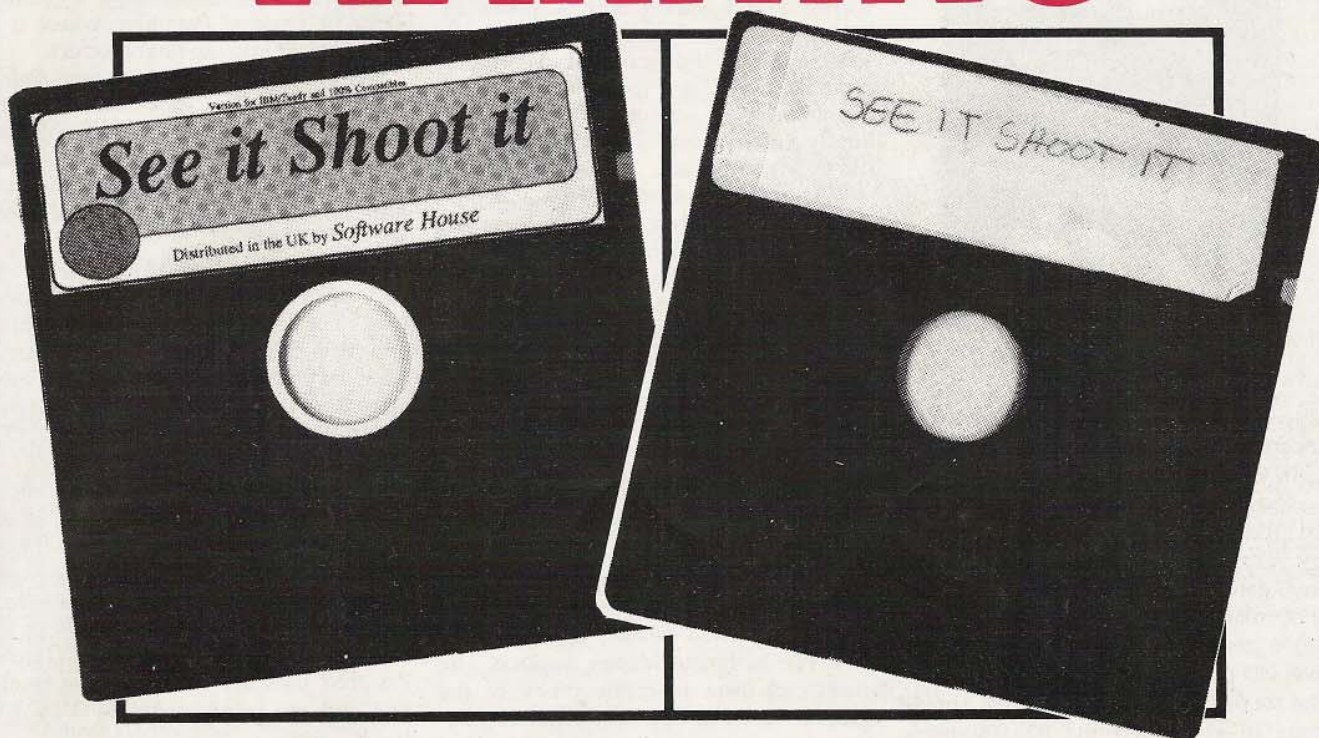
It is then a simple matter of subsequently playing back the tape and insert editing the scenes of the video or computer graphics while monitoring the mono soundtrack: pausing the VCR to insert edit the visuals at an appropriate mark in tempo, crescendo or whatever.

While the Hi-Fi sound track has been replaced by the inserted video audio, the mono sound track containing the music remains unaffected. Having thus edited your video in sync to the mono soundtrack, use a second VCR to re-record your master tape, this time recording the stereo music used originally, on the Hi-Fi track, and video audio on the mono track. Using an audio mixing console can allow you to re-record both music and audio on the Hi-Fi track, however involves additional expense.

By using a video production mixing console, all of the various elements of a video-movie can be easily combined to produce a slick, professional-looking product. The alternative is a ungainly collection of equipment and cables, which can be made to work, but not nearly as effectively as an integrated control unit.

Sony, JVC and Panasonic all make production mixers aimed at semi-professional or high-end home users. Inputs from separate VCR's, camera and audio sources can be mixed, faded, wiped, dissolved, superimposed and en-

WARNING



**THIS DISK WILL
GIVE YOU
HOURS OF
FUN**

**THIS DISK
COULD GIVE
YOU 6 MONTHS
IN PRISON**

If you Pirate Software you are
a thief. Thieves will
be prosecuted.



ELSPA
EUROPEAN LEISURE SOFTWARE
PUBLISHERS ASSOCIATION

Federation Against Software Theft
U.K.

COMPUTERMATE
(australia)

Any information on software piracy should be passed on to Computermate Australia
Phone: (02) 457 8118 Fax: (02) 457 8739.

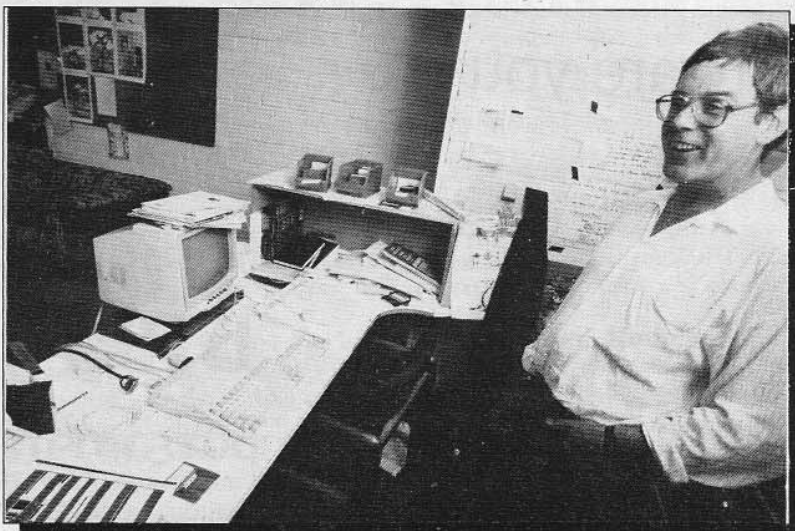


1990 - Election Graphics
Zap Productions

hanced by a variety of special effects. Pricing of mixers ranges from around \$1500 to \$3000.

Our list of equipment has grown to the following: Amiga plus monitor, memory expansion, hard disk, accelerator card, genlock, video camera, two S-VHS (or similar) VCR's, editing controller, television monitor, production mixing console, CD player (or similar) and software. The total price of such a system should come in at around the \$25,000 mark. Combine all of these elements with the graphics from your Amiga and you will be able to create a production rivaling that of Steven Spielberg. Expensive? Well yes and no, as a single industrial VCR can cost not much less than the whole system described above.

Now we'll take a quantum leap and leave the "desk-top" realm altogether. Case study number four: Broadcast quality Computer generated video footage.



John Burge - Senior Animator, Zap. Amiga 500, Neriki Image Master, 2 Megs RAM.

Professional quality

● Watch Channel 9 for a short time, and you will no doubt see that all too familiar station promotion, soaring across Australia and ending with a glistening "9" logo with the Sydney skyline seen in reflection. The creator of that marvellous sequence was Zap Productions. To find out more about how it was done, I was kindly given a tour of their Sydney studio by Mr Tony Pack.

The tour began with a look at a promotional video they had put together. The ensemble which followed was very impressive to say the least, as was the list of corporate customers. Apart from the major television networks, their work involved clients such as Duracell, Schweppes, The State Bank and Australia Post as well as corporate work and foreign customers.

Did they use an Amiga for any of their productions? My question was soon answered when I was introduced to Mr John Burge, a Senior Animator at Zap and shown a humble Amiga 500, with a Minimegs two megabyte expansion board plugged in its side, sitting in front of a Neriki Image Master genlock! The Amiga is used to create many of the graphics used at Zap Productions by being part of an overall "video montage" process used to create the final product.

What software did he use? The standards were *DPaint III* and *Sculpt 4D*, but just about every other graphics/video program for the Amiga was in their library should they be needed. The Amiga was extensively used in an advertisement done for the State Bank, where text was animated across the screen and eventually transformed into the outline of a motorcar.

Broadcast quality is achieved by using the RGB outputs from the Neriki, and recording in RGB using a Digital format VCR. More commonly an Amiga generated graphic is ported to either a Quantel Harry or Quantel Paintbox, where it is then overlaid into the final product.

What is a Quantel Harry and Paintbox, you, ask? The short answer is the videophiles Valhalla. More seriously, after the visit at Zap, I contacted the people at Quantel in Sydney to discover more about their very impressive product.

Quantel is a digital electronics company originating from the United Kingdom. Their digital production centres comprise fully digital editors (Harry), graphics generators (Paintbox) and real-time three dimensional mapping, perspective, special effects generators (Encore/Mirage).

All image manipulations are done at 24 bit plane level ie: Full PAL colour images. The Harry can store two minutes worth of video frames (3000 images) which can have any of the special effects applied to them via the Paintbox or Encore/Mirage units. The Quantel Graphic Paintbox uses a 1125 line screen resolution and can print images 5400 by 3700 pixels wide.

By using a Digital format VTR virtually unlimited layers of special effects can be composed onto tape, with no loss in video quality. Don't be too disappointed if you can't afford such stratospheric technology. Quality has its price as there are only four Quantel Digital edit Suites in Australia: at a cool 1.1 million dollars I'm not surprised!

Ray-traced images were not a big part of the production process used at Zap. Ray-trace work is time consuming and hence expensive, however when it is required the people at Zap use dedicated workstations using RISC based microprocessors. Images are calculated using 24 bit-planes, or just over sixteen-million colours. A lot of the programming is done in-house, with most of the code being written in "C".

For the bulk of their productions the people at Zap use a very clever mix of video character generators, computer graphics, scale models photographed on 35mm film, traditional cell animation and live video footage. All of these elements are united by using the Quantel Harry where individual video elements can be combined to create the final product. Operation of the Harry is in a manner not too dissimilar to that of cutting and pasting an anim-brush using *DPaint III*, ex-

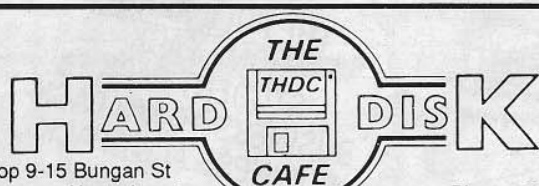
cept with the manipulations performed here being on video footage!

When the use of scale models is required, camera motion is often computer controlled so that the scene perspective and motion can be accurately combined with the other elements of the scene at a later stage in the production. To ensure quality, ease of lighting and animation, the size of these models is often made huge.

The Sydney Harbour Bridge currently used in the Channel Seven News introduction, was actually a model some three meters long. As another example, in an advertisement for a new type of toothbrush, live product shots were combined with scenes of amorous tooth brushes, which happened to be scaled up versions over a meter long. Clearly professionalism, quality, complexity and budgets used at Zap were also in the stratosphere compared to the humble title screen created by our home user considered in case one.

Several words of thanks to the following people, Tony Pack and John Burge at Zap Productions, Panasonic and Sony Professional Sales in Sydney and Leo Baxter at Quantel. Their assistance proved invaluable in researching this article.

While we may not all have the desire to create the spinning, twirling, dazzling, mirrored, three dimensional objects in fictional worlds seen in such "state of the art" animations, let alone be able to afford a system capable of rendering such treats within a reasonable time span, it is nice to know the Amiga can do it all, from the simplest title on a home video-movie to an important part in creating a Computer Dream. □



Shop 9-15 Bungan St
(entrance Akuna Lane)
Mona Vale NSW 2103

Phone: 99 4441
A.H. 411 2081

AMIGA 500 - AMIGA 2000 COMMODORE COLT - PC 10 SOFTWARE - HARDWARE COMPUTER ACCESSORIES

AMIGA VIDEO TUTORIAL FOR BEGINNERS
FEEL AT HOME WITH YOUR NEW AMIGA

COST \$29.95

HINTS & TIPS

LEARN HOW TO BACK-UP

COPY - FORMAT DISKS - SAVE - LOAD

MAIL ORDER FORM

BANKCARD/MASTERCARD/CHEQUE/POSTALORDER

NAME:

ADDRESS:

PHONE:PC:

PAY BY CHEQUE: B/C: M/C:

P/ORDER:

CARD NO:

EXPIRY DATE:

SIGNATURE: DATE:

ComputerMATE™ Chart TOPPERS FOR AMIGA

Productivity Titles

\$SUGG. RETAIL

CITY DESK V2.0 (PAL)	\$239.00
DIGI-PAINT V3.0 (PAL)	\$129.00
EXCELLENCE	\$299.00
ORGANIZE	\$79.00
PAGESTREAM V1.8	\$259.00
PHASAR V4.0	\$129.00
SCRIBBLE PLATINUM	\$99.00
THE WORKS PLATINUM	\$249.00

Leisure Titles:

ACCORDION - Solitaire Vol. 2	\$49.95
ALL DOGS GO TO HEAVEN	\$59.95
BATTLE SQUADRON	\$54.95
CALCULATIONS - Solitaire Vol. 3	\$49.95
CLOWN O'MANIA	\$39.95
DISTANT SUNS. Astronomy	\$79.95
DRAGON'S LAIR II	\$89.95
F-16 COMBAT PILOT	\$49.95
FUTURE SPORTS	\$34.95
HELLRAISER	\$34.95
HOLE IN ONE GOLF: 3 disk set	\$44.95
LANCASTER	\$39.95
LEGEND	\$39.95
MICRODEAL HITS 1. Goldrunner, Karata Kid, Jupiter Probe and Slaygon.	\$49.95
MICRODEAL HITS 2. Leatherneck, Tanglewood, Time Bandit and Major Motion.	\$49.95
ROMANCE OF 3 KINGDOMS	\$99.00
PERSION GULF INFERNO	\$59.95
SEAHAVEN TOWERS - Solitaire Vol. 1	\$49.95
TABLE TENNIS	\$39.95
TARGHAN	\$39.95
TAROT MASTER: Read the Future	\$39.95
X-OUT	\$49.95

Ask for them now at your local Amiga Dealer.

Distributed and Supported by:
ComputerMATE Products (Australia) P/L.
9 High Street, Mt. Kuring-Gai, N.S.W. 2080.
Telephone: (02) 457 8388 Fax: (02) 457 8739

AMIGA HARDWARE

Amiga 2000 Computer	Latest model, we love it!	1995.00
Amiga 2000 Comp+40meg	40 meg drive factory fitted	3295.00
Amiga 2000 hd cont 2090	ST506 & scsi controller	499.00
Amiga 2000 Impact FD2010	drive inc. dust flap	259.00
Amiga 500 Computer	Powerful home computer	799.00
Amiga 500 RAM Exp 501	Internal 512K ram upgrade	249.00
Amiga 500 RAM Exp 512K	Inc battery backed-up clock	249.00
Amiga 500 RF Modulator	Connect Amiga to TV or video	49.95
Amiga 500 Starter Pack	Inc. TV modulator & software	699.00
Amiga A590 2mb Hard Drive	Suits Amiga 500	995.00
40meg SCSI H/Drive Quantum	Voice-coil, auto-park 11-18ms	799.00
80meg SCSI H/Drive Quantum	Voice-coil, auto-park, 11-18ms	1399.00
8up Mem Board 2meg ram	A2000 ram exp board	899.00
A590 Exc Hard Drive	Scsi controller + ram options	795.00
Amix Emulator & Chip	Amiga Macintosh emulator	595.00
Amigaosh 3.5 Mac Drive	Suits Amix emulator	399.00
CA 880 3.5 Disk Drive	Best external amiga drive	279.00
Camera Hitachi HV720 with lens	Suits Amiga Digiview	699.00
Camera WV1410 with lens	For Digiview Amiga	699.00
CBM 10845 CGA Monitor	Stereo, suits Amiga, Atari, C64	499.00
Comidi Amiga	Quality Amiga Midi	179.00
Comidi Mini	Budget Midi interface	79.95
ECE Midi Interface	Suits Amiga 500/2000	139.95
Flicker Fixer A2000 only	Requires multisync monitor	899.00
Future Sound A500/2000	High quality sound digitizer	239.00
Genius Mouse Amiga	The best Amiga mouse	59.95
Genlock Mingen	Budget genlock	399.00
Genlock Magni 4005	Professional broadcast quality	3295.00
Impact A2000 SCSI 2M ram bare	Internal A2000 card	699.00
Internal 3.5 Disk Drive	Suits Amiga 2000	279.95
Master Sound	Quality sound sampler & software	84.95
META4 Ram Board A500 OK	Ram expansion option for trumpca	399.00
META4 Ram Board A2000 OK	Ram expansion option for trumpca	399.00
Mouse Boing	Quality optical mouse	249.00
Mouse M4 Amiga	Replacement mouse for Amiga	74.95
Mouse Master	Joystick/mouse port switch box	74.95
PC Emul Bridge Board XT	Inc 5.25 drive & 3.2 dos	995.00
PC Emul Bridge Board AT	Inc 5.25 1.2 meg drive	1995.00
Philips Monitor (CM8833)	Stereo, 2 yrs warranty	499.00
Philips Monitor (CM8802)	Budget colour Amiga monitor	399.00
Printerace	2nd parallel port for Amiga	164.95
Processor Accel. A2000	14MHz 68000 + math co-pro option	249.00
RF302C Amiga Disk Drive	Slim external drive on/off switch	249.00
RF542C 5.25 Amiga Disk Drive	Use all those old C64 disks	299.00
RM550C Ram Exp 512K	Inc battery backed-up clock	249.00
Trump Card A2000	Quality scsi controller	399.00
Trump Card A500	Autobool scsi controller	595.00
Trump Card Bracket	For hard card installation	49.95
Vidi Amiga	Excellent b/w frame grabber pal	499.00
Vo Rec One	Voice recognition hardware & software	244.95

C64 HARDWARE

1541 Disk Drive	For the Commodore 64	299.00
1802 Monitor	Suits C64, Vic20, C16, plus 4	299.00
Citizen 5200 Printer	Quality 9 pin for C64	369.00
Datasette	Budget storage for C64	49.95
Modem 64/128 Exp. Pack	Inc. all software	199.00
Movie Pack C64	C64, disk drive, games & joystick	595.00
Olympia NP30 C64	Suits C64 9 pin	369.00
Pactronics 5.25 Drive Pack	C64 disk drive + software	299.00
Sports Pack C64	C64 computer, tape drive, games	299.00
Viatec Modem	Connect your C64 to the world	14.95
Xetec Jun. Print Interface	Allows use of parallel printer	119.95

PC HARDWARE

3.5 1.44 meg floppy drive	Internal PC drive	299.00
40meg h/d XT ST250R kit	For all PCs upgrade now	579.00
5.25 floppy drive 1.2mb	Internal PC drive	299.00
CBM EGA Mon + EGA card	16 colour hi-res on your PC	699.00
CGA Card	Suits all PC computers	69.95
IBM Game Card	Required for PC joystick	54.95
Joystick Analog Plus IBM	Quality joystick	69.95
Joystick Analog Extra	Superb PC joystick	79.95
Joystick IBM JBS00	Budget PC joystick	29.95
Memorex Green Mon. 14"	Inc. swivel base, bargain	69.95
PC30 S3 & EGA Mon. & 20meg	Quality German made PC 12mhz	2495.00
Sound Blaster Card	Magnificent PC sound add-on	399.00
Turtle Card GB102	Joystick port for PC	44.95
VGA Monitor + VGA card	256 colours on your PC	1100.00
Witty Mouse IBM	Serial bus mouse with driver	94.95

PERIPHERALS

Bit Blitzer 123E	Fully automatic modem	199.00
Bit Blitzer 1234E	Superb auto modem	499.00
Icon Troller	Special keyboard joystick	39.95
Joystick 3 Way	3 joysticks in one	69.95
Joystick Konix Navigator	Hand-held & auto-fire	44.95
Joystick Tac 2	Quality product 2yr warranty	39.95
Joystick Tac 30	Quality budget joystick C64/Amiga	29.95
Joystick Wico Bathandle	Heavy duty, super high quality	49.95
Joystick Wico Redball	Bathandle's brother	49.95
Light Phaser	Arcade gun for Amiga games	34.95
Mouse 1352 PC S3	9 pin d type, suit Amiga & PC	89.95
Mouse MBC Cordless	Suits Amiga & PC	149.00
Sega Master System	Great TV games machine	149.00
Star Cursor Joystick	Auzzie made 3yr warranty	59.95
TV Tuner Philips AV7300	Turn your monitor into a TV	229.00
Utility Station	Printer/monitor stand	29.95
Zoomer Joystick	Steering wheel joystick	69.95

PRINTERS

Citizen GSX140 Printer	Excellent 24 pin colour	899.00
Citizen GSX140 C.S.F.	Single sheet feeder	264.95
Epson EX1000 Printer	Fast 9 pin 15" business printer	1080.00
Epson LQ2500 Col. Op Kit	Includes colour ribbon	169.95
Epson LQ2500+ Printer	Top quality 24 pin 15" (colour)	1995.00
Epson LQ400 Printer	Budget 24 pin pull tractor	599.00
Epson LQ550 Printer	Push feed 24 pin quality	699.00
Epson LQ850 Printer	Fast 24 pin push tractor	1050.00
Epson LQ860 Printer	Superb quality 24 pin colour	1149.00
Epson LX400 Printer	Quality 9 pin budget	399.00
Epson LX850 Printer	9 pin push feed	499.00
LP806 Laser Printer	128K budget laser	995.00
MPS1230 Printer	9 pin, suit C64 serial + PC parallel	399.00
Olivetti DM10SS Printer	Colour 9 pin parallel	399.00
Star NX1000CL Col Printer	9 pin colour, feature packed	599.00
Star NX24-10 letter q print	Fully featured push feed	699.00
Super 5 EP1500 9 pin print	Best quality budget printer Amiga	299.00
Super 5 EP2000 9 pin print	Superb print feature packed. Amiga	399.00



PC10 Series III

\$200 off!

- *640K RAM Fully Expandable
- *Quality XT Turbo 10 MHz
- *5.25" floppy disk drive
- *MS-DOS 3.2

with 20 meg Harddisk & CGA monitor \$1799
with 20 meg Harddisk & EGA monitor \$1899
with 40 meg Harddisk & CGA monitor \$1995
with 40 meg Harddisk & EGA monitor \$2099



STATIONARY

- * 900 Sheets A4 quality tractor paper \$39.95
- * 400 Sheets recycled paper \$19.95
- * 2500 Sheets A4 tractor paper \$109.95
- * 3.5" diskette labels pack 100 \$69.95
- * VHS Video labels pack 100 \$19.95
- * Mailing labels pack 100 \$29.95
- * 5.25" floppy disks DSDD no frills \$6.95
- * 5.25" floppy disks DSDD special \$9.95
- * 5.25" floppy disks DSDD SKC \$12.95
- * 5.25" floppy disks DSDD Memorex \$14.95
- * 3.5" compact disks DSDD no frills \$17.95
- * 3.5" compact disks DSDD SKC \$19.95
- * 3.5" compact disks DSDD Memorex \$24.95
- * 5.25" disk storage box 100 \$19.95
- * 3.5" disk storage box 100 \$19.95

STOP PRESS!

Coming Soon!
Amiga 500 internal
PC Emulator board!

200 megabyte 3.5"
half-height
hard disk from
QUANTUM!

AmigaNET
True Ethernet
networking
system

MAIL ORDER

Front 13 Gibbes Street.
East Chatswood, NSW 2067

Phone (02) **417 7395**

TOLL FREE (008) 25 2130. FAX (02) 417 8710

Prices subject to change without notice.

PRINTER RIBBONS

We stock a large range of printer
ribbons at the best prices all with
full replacement warranty. Call
any of our stores or our mail order
service for details.

SUPER PRINTER SPECIAL!

SUPER 5 EP 1500
an excellent **QUALITY**
9 pin dot matrix printer
for only

\$299

suits any IBM compatible
and all Amiga & Atari

NOW AVAILABLE!!
THE FULL RANGE
HOME PACK
STUDENT PACK
BUSINESS ADMIN PACK
BUSINESS ACCT PACK

Call into any of our shops or
ring our Mail Order section
for full details.

PC30 Series III

\$500 off!

- *1meg RAM Fully Expandable
- *Quality AT 286 12 MHz
- *3.5" 1.44 meg floppy disk drive
- *MS-DOS 3.3

with 20 meg Harddisk & EGA monitor \$2499
with 20 meg Harddisk & VGA monitor \$2999
with 40 meg Harddisk & EGA monitor \$2699
with 40 meg Harddisk & VGA monitor \$3199



AMIGA SOFTWARE

ART

Aegis Graphics Kit	Improved images and animator	149.95
Animagic	Easy animation in low res	174.95
Aust. Animals Col. Book	Make/design your own comic strip	29.95
Comic Setter	Clip art for comic setter	99.95
Comic Setter Funny Figs	Ready made pics and figures	39.95
Comic Setter Sci. Fi.	Clip art for comic setter	39.95
Comic Setter Super Heroes	The best art/animation package	299.00
Deluxe Paint 3	Tutorial for desktop 3 users	295.95
Deluxe Photo Lab	Ham image processing	199.95
Deluxe Paint 2	Posters and banners, supports colour	149.95
Digi Paint 3	A high quality graphics editor	299.00
Digiview Gold 4	Professional graphics language	114.95
Director	Add more wipes, fades, spirals	69.95
Director Tool Kit	3D object C.A.D. + stereo vision	79.95
Forms in Flight	Animate your art	149.95
Fantavision	Super high quality printouts	49.95
Intro CAD	CAD bits and pieces	129.95
Kara Fonts	Superb colour fonts for paint	129.95
Modeler 3D	Construct 3D models for Videospace	99.95
Movie Setter	Animation creator, lo-res only	89.95
Puzmate	Professional graphic editor	49.95
Printmaster Fonts & Bords.	Art for Printmaster	59.95
Printmaster Plus	Design and print signs, cards, etc.	560.00
Pro Video Plus	Pro char gen software	295.00
Professional Draw	Structured graphics designer	69.00
Script Animate 4D	Ultimate 3D render/animate	59.95
Sex Fonts	Colour fonts for paint, etc.	179.95
TV Text	Character generator software	279.95
TV Text Pro	Improved title with fonts	299.00
Video Effects	Professional graphics effects	295.00
Video Scope 3D	3D animation pack	49.95
Videoscape 3D Design Disk	Structured models for videospace	

ARCADE ACTION

Airborne Ranger	ArCADE soldier	49.95
All Points Bulletin	Be a cop for a day	69.95
Altered Beast	ArCADE fighter game	59.95
Baal	Another brilliant arcade from psychosis	64.95
Barbarian 2 Palace	One/two player violence	69.95
Batman Caped Crusader	A legend returns	69.95
Batman Movie	For those Batman fiends	59.95
Battle Squadron	Hottest scrolling shoot 'em up	69.95
Beverly Hills Cop	Be Eddie Murphy for a day	69.95
Beyond Dark Castle	ArCADE platform action	54.95
Black Magic	ArCADE platform game	69.95
Blood Money	Another smash arcade hit from Psychosis	19.95
BMX Simulator	Bike racing arcade action	29.95
Cabal	3D combat war game	69.95
Capone	Great light gun shoot 'em up	69.95
Chariot of Wrath	A multi part arcade spectacular	49.95
Chase HQ	3D police car chase, get the baddies	59.95
Crown O' Mama	Classic shoot 'em up	54.95
Commands	3D car racing game	69.95
Continental Circus	Very fast shoot 'em up	54.95
Cosmic Pirate	ArCADE hit game, 2 player option	59.95
Double Dragon 2	Comic book heroes arcade	49.95
Dr. Doom's Revenge	A worthy asteroids game	69.95
Dragon Ninja	Latest to martial arts game	64.95
Dragons Lair	The arcade comes home. Really	69.95
Driving Force	3D action multi vehicle racing game	69.95
Dynastix Dux	Hilarious arcade fun	59.95
European Dreams	Quality collection of past releases	59.95
Eye of Horus	Egyptian arcade strategy	74.95
Fiendish Freddy	Six zany games of circus excitement	54.95
Fright Night	Horror arcade kill 'em up	59.95
Galaxy Force	Space shoot 'em up	59.95
Ghostbusters 2	Movie arcade fun	59.95
Ghosts & Ghouls	ArCADE hit game	79.95
Giant's	3 great games inc Outrun and Gauntlet 2	49.95
Hard Driving	Racing arcade	19.95
Hostages	Try your skill as a marksman/commander	69.95
Indiana Jones Last Crusade	Guide Indy thru all the perils	54.95
Indiana Jones Temple of D	Most dangerous adventure yet	19.95
Keel Thief	Collect the loot for points	69.95
Kelly X	3D shoot 'em up	69.95
King Arthur	Incomparable adventure base on Arthur	59.95
Maniac Mansion	Great horror action	59.95
Moon Walker	Michael Jackson's arcade hit	59.95
New Zealand Story	Great arcade fun	54.95
Ninja Warriors	Superb quality arcade hit	49.95
P.O.W.	Light gun action game	59.95
Pacmania	3D Pacmania	69.95
Power Drift	ArCADE racing	69.95
Powerdrome	ArCADE space racing	59.95
Predator	Go Arnold	49.95
Quartz	Graphical puzzle game	59.95
Red Heat	Russia and USA spies combine in USSR	49.95
Rick Dangerous	Fun arcade action (brilliant)	59.95
Robo Cop	Computer version of the movie	69.95
Rodeo Games	Western version of winter games	79.95
Shadow of Beast	Hot arcade classic	54.95
Shinobi	Latest samurai game	49.95
Shufflepuck Cafe	Addictive air hockey game	49.95
Silk Worm	Light gun games	59.95
Skyfox 2	Dual player shoot 'em up action	14.95
Space Ace	Quality budget game	89.95
Star Wars Trilogy	Cartoon quality comes to computer	59.95
Story So Far #1	3 games in one	49.95
Strider	Buggy Boy, Ice Palace, Battleships	59.95
Stunt Car Racer	ArCADE platform	49.95
Super Hang On	Quality 3D racing	59.95
Switch Blade	Fastest arcade racing game ever	59.95
Targhan	ArCADE adventure	49.95
Thunderbirds	Hot arcade adventure	69.95
Turbo Outrun	TV strategy/arcade	59.95
Untouchables	ArCADE car racing	59.95
Vortex	Elliot Ness arcade killer	69.95
Western Games	Space action	49.95
Wild Streets	Great arcade fun for many	59.95
Wind Walker	Street fighting	49.95
Winners	Superb King of the Hill	49.95
Wonder Boy Monster Land	Leader Board/Test Drive/Karate Kid 2	59.95
Xenon 2	ArCADE smash hit	64.95
	Fast com-up quality destructive	

ADVENTURE GAMES

Bards Tale 2	Quality role playing adventure	54.95
--------------	--------------------------------	-------

Chrono Quest	Epic animated adventure	89.95
Deja Vu 2 Lost in Las Vegas	The adventure continues	74.95
Faery Tale	Animated fantasy	49.95
Future Wars	Graphic adventure quest	64.95
Gold Rush	Another graphic adventure from Sierra	69.95
It Came From Desert	Latest Cineramaware release	59.95
Jelisons	Great icon driving adventure game	49.95
Kings Quest Pack of 3	Quests 1, 2 and 3 best adventure comp.	79.95
Leisure Suit Larry	Adults only graphic adventure	59.95
Leisure Suit Larry 2	Looking for love in several wrong places	79.95
Leviathan	Horror action adventure	54.95
Manhunter New York	Sierra for the older ones	74.95
Ooze	Horror adventure	64.95
Police Quest	Police adventure Sierra	69.95
Rocket Ranger	Cineramaware classic	229.95
Romance of 3 Kingdoms	Epic sized adventure	114.95
Space Quest 2	Sierra adventure	59.95
Space Quest 3	Outer space Sierra	69.95
Swords of Twilight	Role playing adventure	54.95
Tintin on the Moon	Cartoon adventure	69.95
Universe 3	Diplomatic adventure	74.95
Weird Dreams	Crazy adventure	59.95
Zac McKracken	New adventure from Lucasfilms	59.95

BUSINESS

Accountant	Professional business system	495.00
B.E.S.T. Accounting	Full accounting	595.00
B.E.S.T. Accounting Mini	Cut down version	395.00
Critics Choice	Kind Words, Maxiplan, MF File	149.95
Data Retrieve Professional	Now programmable	199.00
Deluxe Video 3	Design animated scripts with sounds	99.95
DG Calc	Quality spreadsheet	99.95
E Clips	Structured clip-art for pro-page	159.95
Electronic Cash Book	Watch your cash flow	199.95
Excelence	Professional word processor	395.00
Maxiplan Plus	Top spreadsheet	199.95
Microfiche File Plus	Graphics based database	289.95
Page Stream	Quality desktop publishing	299.95
Page Stream Fonts	Additional fonts, dot matrix or p script	59.95
Professional Page	Quality dtp package	395.00
Prowrite	Wordpro with colour and graphics	229.95
S.B.A. Cash	Small bus cash book	169.95
Scribble Platinum	Quality word processor with dict/thes	149.95
Superbase Professional	Fully programmable version	399.00
Top Form	Quality forms designer + many templ	134.95
Ultracard	Hypercard comes to the Amiga	89.95
Word Perfect 4.2	The ultimate word processor	499.00
Works	Scribble/analyse/organise	189.95
Works Platinum	Improved word pro, spreadsheet, dbase	289.95

EDUCATIONAL

Animal Kingdom	Learn about the animals	79.95
C for advanced prog. disk	Improve your C programming	24.95
Chicken Little	Learn to read educational	34.95
Aesop's Fables	Improve your child's English	34.95
Decimal Dungeon	Educational junior high 5th	69.95
Designasaurus	Graphics fun	69.95
Discovery Maths	Maths action game	39.95
Discovery Spelling	Spelling game arcade	39.95
First Shapes	Early learning	49.95
Fraction Action	Educational 5th grade and up	69.95
Funschool Series	Six games full of learning	59.95
Gold of Americas	Historical simulator	44.95
Intellitype	Typing tutor	54.95
Kid Talk	Quality educational software	49.95
Kinderama	Educational preschool age	69.95
Light Force	Science and physics educational	69.95
Little Computer People	Great people for fun	19.95
Little Red Hen	Reading educational	34.95
Mastering CLI	Help for those new to Amigados	69.95
Match It	Match shapes and colours	49.95
Math A Magician	Maths educational for kids	49.95
Math Talk	Quality educational software	49.95
Math Talk Fractions	More on maths	49.95
Math Wizard	Maths fun	69.95
Mavis Beacon Teach Typ	#1 typing tutor	99.95
Puzzle Story Book	Kiddies fun early learning	59.95
Read & Rhyme	Educational 5 to 10 year olds	69.95
Read A Rama	Reading Program	69.95
Sim City	Build and control your own city	84.95
Sim City Editor	Create your own terrain	39.95
Spellbound	Quality educational spelling	59.95
Speller Bee	Quality Spelling	49.95
Where in USA is Carmen S	Geography education game	79.95
Where in World is Carmen S	Geographical hide and seek	79.95
World Atlas	Unique computerized world atlas	104.95

HOME

Desktop Budget	Maintain personal budgets	74.95
Desserts Cookbook	A database of dessert recipes	34.95
Home Accounts	Balance all your expenditure	99.95
Hot Disk	For adults only, graphics and stories	19.95
Kind Words	Quality word pro/sports fonts	39.95
Personal Accounts Plus	Watch where the dollars go	69.95
Publishers Choice	Beginners dtp package	199.95
Superbase Personal 2	Easy to use database	199.00
Textcraft	Budget word processing	44.95
Transcript	Budget word pro package	44.95
Variety Cookbook	Cookbook database	34.95
Your Family Tree	Genealogy database	99.95

MUSIC

Audio Master 2	Improved Sampler	149.95
Deluxe Music Const Set	Composition Editor	194.95
Dr T Copyist Professional	Midi software	499.00
Dr T Keyboard Control Seq	For the music production people	399.00
Music X	Quality midi and editing tool	299.95
Sonix	Music editor	114.95

SPORTS

Jack Nicklaus Courses	Extension data disk	39.95
Jack Nicklaus Golf	Partner 18 holes with Jack	69.95
Kick Off	Best soccer sim. available	54.95
Pro Tennis	Best tennis game seen	49.95
TV Sports Football	Enjoy Gridiron?? Get this	69.95
Wide World Sports	18 fantastic sports events	49.95
World Class Leader Board	Equal #1 golf game	49.95
World Tour Golf	Equal #1 golf game	54.95

SIMULATIONS

3D Pool	Superb pool playing simulator	49.95
Champ	Boxing simulator	69.95
Cycle Inter Grand Prix	3D motorbike racing simulator	79.95
Distant Sun	Professional astronomy package	89.95
F16 Combat Pilot	The fighting simulator	69.95
F16 Falcon	Brilliant combat sim. 16 missions	54.95
F16 Falcon Mission Disk	More missions for F16	49.95
FA18 Interceptor	Excellent combat simulator	54.95
Ferrari Formula 1	Car racing simulator	54.95
Flight Sim. Scenery Disk	Japan, Europe, USA	59.95
Flight Simulator 2	Professional sim	99.95
Gunship	Helicopter combat simulator	59.95
Horse Racing	3D animated racing fun	69.95
Hunt for Red October	Submarine strategic warfare	49.95
Lombard Rally	Car rally racing	69.95
Nigel Mansell's Grand Prix	Test your driving skills	54.95
North and South	Quality action/simulator	59.95
Oil Imperium	Quality business simulator	69.95
Ports of Call	Shipping merchant simulator	29.95
RVF Honda	Motorbike racing championships	49.95
Silent Service	Submarine simulator	49.95
Tarot Master	Tarot simulator	49.95
Test Drive 2	Race against friend or computer	59.95
Test Drive 2 Cars	Bored with standard cars	44.95
Test Drive 2 Muscle Cars	Heavy cars to suit Test Drive 2	34.95
Test Drive 2 Scenery	Go somewhere different	44.95

STRATEGY

Annals of Rome	Historical strategy game	69.95
Archipelagos	Great strategic arcade adventure	54.95
Balance of Power 1990	Excellent political strategy	79.95
Bards Tale	Animated adventure	54.95
Battle Chess	3D animated chess	74.95
Blattesch	A must for any board game player	69.95
Bloodwych	One or two player role-playing	49.95
Bloodwych Data Disk	Expand your dungeons	49.95
Bomber (Fighter)	Voted best game! Combat simulator	49.95
Borodino	Strategy game	49.95
Carnet Command	Superb 3D strategy	69.95
Chess Player 2150	Considered the best	59.95
Chessmaster 2000	Best quality 3D chess ever	54.95
Cleudomaster Detective	Quality family game	49.95
Colossus Chess X	So you think you're a good chess player	69.95
Defender of Crown	Classic old England	69.95
Demons Winter	Dungeons and dragons just keeps going	54.95
Dungeon Master	D & D for Amiga (1meg needed)	69.95
Elite	Classic space epic (A500/2000 only)	49.95
Empire	Superb strategy	59.95
Full Metal Planet	Sci-fi graphic strategy hit	59.95
Hillstar	D & D strategy	69.95
Interphase	3D computer infiltration	69.95
Iron Lord	Multi-part old England strategy	59.95
Laser Squad	Combat team simulator	59.95
Lord of Rising Sun	Quality Cineramaware: Nippon defender	69.95
Millennium 2 2	Manage and maintain the moon	59.95
Omega	Design and test your own tank	59.95
Pictionary	Great family game	49.95
Populous	Control, build, destroy your own	54.95
Populous Data Disk	More worlds	34.95
Reach for Stars	Space strategy	39.95
Red Lightning	1990's war strategy	64.95
Return to Atlantis	3D graphic strategy game	14.95
Sargon Chess 3	Can beat Chessmaster 7 out of 9	99.95
Scrabble	Great family game	59.95
Solitaire Royale	Compilation of quality card game	49.95
Star Command	Deep space adventure	54.95
Star Fleet	Space strategy	69.95
Stellar Crusade	Space strategy	54.95
Trivial Pursuit	Special discounted family game	14.95
Trump Castle	Gambling compilation	69.95
Ultima 4	Heavy D & D strategy	54.95
UMS	Battle sim Battle of Waterloo inc.	79.95
UMS Scenario Disk	More battles for UMS	34.95
Waterloo	Historical war sim	69.95

UTILITIES

A Talk 3	Comms package, script files, arex	109.95
AC Basic	Basic compiler	395.00
Amiga Disk Drives In/Out	Helpful disk to save time	24.95
Amiga Enhancer Pack	1.3 DOS	29.95
Arexx	Programming language	89.95
Award Maker Plus	Print your own awards	49.95
Aztec Manx C Professional	C compiler	595.00
B A D	Speed disk access by cleaning up	79.95
Benchmark Modular 2	Programming language	310.00
Can Do	Create stand alone software via icons	254.95
Cross DOS	Read/write MSDOS files	59.95
Cygnus Ed Professional	Programmers editor	149.95
Devpac	Latest compiler for assem	184.95
Disk Master	High quality operator tool	79.95
DOS 2 DOS	Convert IBM/Amiga files	94.95
Elan Performer	Display your pictures with style	99.95
FACC 2	Ram cache system	59.95
Fine Print	High quality b/w graphic dump	84.95
Fortran 77	Programming language	229.00
GFA Basic	Good improvement on standard Basic	254.95
GOMF & Button	Latest GOMF version inc. Button	124.95
GPItem	Comm's with Viate	99.95
GrabIt	Screen captures to IFF format	59.95
Home Builders CAD	Drawing package for home design	299.95
Interchange Turbo	Share sculpt 3D and Videospace data	114.95
Lattice C Development V5	Latest compiler from Lattice	449.00
Lisp	Programming language	164.95
Mac to Dos	File transfer package	239.95
Marauder 2 Disk Copier	Keep those originals safe	74.95
Mega Dos	Amiga Dos tutorial	19.95
Megadisk	Vol. 2 thru to 15 available	259.95
Modular 2	Programming language	224.95
Perfect Sound A500	Audio digitizing	79.95
Project D	Disk copier and utilities pack	119.95
Quarterback 2.3	Hard drive back up tool	99.95
Superback	Hard disk back up	254.95
True Basic	Programming language	295.00
UCSD Pascal	The industry standard	69.95
X Copy	Back up your games	24.95
3D Graphics Disk	Source code from book on disk	24.95
Amiga Basic In/Out Disk	A must for those reading the book	24.95
Amiga C for Beginners disk	Time saving disk to match book	24.95
Amiga Dos In/Out Disk	Source files from the book	24.95
Amiga Graph In/Out Disk	Source code from book	24.95
Amiga Machine Lang. Disk	Source code from the book	24.95
Amiga More Tricks & Tips	Source code from book. Sets book of same name	24.95
Amiga System Prog. Guide	Disk of source codes for the book	24.95
Amiga Tricks & Tips	Source code from the book	24.95

TOP 20 COMPUTER HITS!

Title	Amiga	PC	Atari	C64	Title	Amiga	PC	Atari	C64
Fighter Bomber	●	●	●	●	Double Dragon 2	●	●	●	●
Indianapolis 500	●	●	●	●	Shinobi	●	●	●	●
Flight Simulator 4.0	●	●	●	●	Digi-View 4.0	●	●	●	●
Pagestream 1.8	●	●	●	●	Deluxe Video 3	●	●	●	●
Can Do	●	●	●	●	Stunt Car Racer	●	●	●	●
Ninja Warriors	●	●	●	●	Wide World of Sports Pack	●	●	●	●
Simcity	●	●	●	●	Turbo Outrun	●	●	●	●
Leisure Suit Larry 3	●	●	●	●	Clown O'Mania	●	●	●	●
Colonel's Bequest	●	●	●	●	Ghost Busters 2	●	●	●	●
Pro Tennis	●	●	●	●	Battle Squadron	●	●	●	●

IBM SOFTWARE

ARCADE ACTION

Airborne Ranger	War action	59.95
Ballistik	Arcade	69.95
Double Dragon 2	Arcade action	59.95
Galaxian	Shoot 'em up	24.95
Knight Force	Arcade action	59.95
Knight Games	Arcade games	19.95
Lode Runner	Arcade classic	19.95
Moon Walker	Michael Jackson's arcade hit	69.95
Rick Dangerous	Arcade action	69.95
Robo Cop	Serve the public trust, uphold the law	54.95
Rodeo Games	Western arcade fun	69.95
Skweek	Arcade action	54.95
Superbike Challenge	Motorbike racing	34.95
Who Framed Roger Rabbit	Movie arcade fun	59.95
Wind Walker	Arcade action	49.95

ADVENTURE

Bards Adventure	D & D adventure	54.95
Bards Tale 2	3D D & D	59.95
Deja Vu	40's adventure	64.95
Die Hard	Movie action adventure	69.95
Dragons of Flame	D & D	64.95
Dungeon Master	Excellent D & D adventure	69.95
Faery Tale	3D adventure	49.95
Gold Rush	Sierra adventure	59.95
Heroes of Lance	D & D	54.95
Hero's Quest	Hero's quest	59.95
Hillstar	D & D adventure	69.95
Curse of Azure Bonds	D & D adventure	69.95
Demons Winter	D & D adventure	54.95
Indiana Jones Last Crus	Arcade adventure	59.95
Indiana Jones Temple	Arcade adventure	74.95
Kings Quest Triple Pack	1, 2, 3 of the series	89.95
Legacy of the Ancients	D & D adventure	64.95
Leisure Suit Larry	Sierra classic	59.95
Leisure Suit Larry 2	The adventure continues	59.95
Leisure Suit Larry 3	A line addition to the series	79.95
Manhunter New York	Sierra adventure	69.95
Maniac Mansion	Crazy arcade adventure	69.95
Mines of Titan	3D sci-fi adventure	69.95
Police Quest 2	Sierra adventure	59.95
Space Quest 2	3D adventure	59.95
Space Quest 3	Sierra adventure	59.95
Star Trek 5	Movie adventure	69.95
Times of Lore	D & D adventure	54.95
Ultima 4	D & D adventure	69.95
Ultima 5	Heavy D & D adventure	79.95
Ultima Trilogy	1, 2, 3 in the series	69.95
Wibarm	Sci-fi adventure	69.95

SPORTS

Jack Nicklaus Courses	Data disk	39.95
Jack Nicklaus Golf	Golf simulator	54.95
Pro California Golf	Budget golf game	19.95
Soccer Microprose	Sports action	69.95
Wide World Sports	18 great sports games	54.95
World Class Leader Board	Excellent golf game	59.95
World Tour Golf	Golf	54.95

SIMULATOR

3D Helicopter Simulator	Simulator	59.95
888 Attack Sub	Submarine simulation	64.95
Blue Angels	Formation flight simulator	79.95
Chuck Yeager's Flight	Flight simulator	69.95
Cycle International	Motorcycle racing	69.95
F15 Strike Eagle 2	Combat sim	54.95
F16 Combat Pilot	Combat sim	69.95
F16 Falcon	Combat sim	69.95
F19 Stealth Fighter	Combat sim	119.95
Falcon AT	Combat sim	89.95
Ferrari Formula 1	Car racing	69.95
Grand Prix Circuit	Car racing	59.95
Grand Slam Bridge	Card game	84.95
Gunship	Helicopter simulator	74.95
Horse Racing	Betting game	74.95
Hunt for Red October	Submarine simulator	49.95
Life & Death	Surgery simulator	59.95
Lombard Rally	Rally car racing	69.95
Silent Service	Submarine simulator	54.95
Test Drive 2	Sports car racing	69.95
Test Drive 2 Cars	Extra cars	44.95
Test Drive 2 Scenery	Extra scenery	44.95
U.F.O.	Play the aliens	89.95
UMS	War simulations	69.95
VETTE	Street racing simulator	79.95

STRATEGY

Abrams Battle Tank	War strategy	64.95
American Civil War	Historical strategy	49.95
Ancient Art of War	Historic strategy	74.95
Ancient Art of War at Sea	Historical strategy	79.95
Ancient Land of Ys	D & D adventure	89.95
Balance of Power 1990	Political simulator	69.95
Battle Chess	3D animated chess	69.95
Battletech	Sci-fi strategy	69.95
Borodino	Strategy	49.95
Carrier Command	The ultimate 3D simulation	54.95
Chessmaster 2100	Chess	69.95
Elite	Space trade game	69.95
Empire	War strategy	49.95
Gold of Americas	Historical adventure	39.95
M1 Tank Platoon	War simulator	89.95
Mech Brigade	War strategy	64.95
Millennium 2.2	Sci-fi strategy	69.95
Murder Club	Detective mystery	79.95
Omega	Design your own robot tank	59.95
Panzer Battles	War games	39.95
Pool of Radiance	D & D	64.95
Reach for the Stars	Space strategy	54.95
Red Lightning	War strategy	69.95
Red Storm Rising	War strategy	54.95
Sargon 3 Chess	Chess	99.95
Snow Strike	Mission simulator	44.95
Solitaire Royale	Card games	69.95
Space Rogue	Space trading adventure	59.95
Star Command	Space strategy	54.95
Star Trek Rebel Universe	Space strategy	69.95
Strike Fleet	Warship strategy	54.95
USS Stinger	War simulator	34.95
Waterloo	3D historical war simulator	79.95

ART

4 in 1 Art Portfolio	Clipart collection	169.95
Autosketch	Structured graphics	149.95
Bannermania	Signs, banners, etc.	59.95
Deluxe Paint 2	Graphics package	244.95
Fantavision	Graphics and animation	99.95
Garfield Deluxe	Graphics and printing	69.95
Looney Tunes Print Kit	Graphics and printing	34.95
Newsroom	Teaches dtp	99.95
Newsroom Pro	Updated version	144.95
Print Power	Print cards and banners	64.95
Print Shop	Print cards, banners, signs	89.95
Printmaster	Print cards, signs	84.95
Publish It Lite	Budget dtp package	89.95

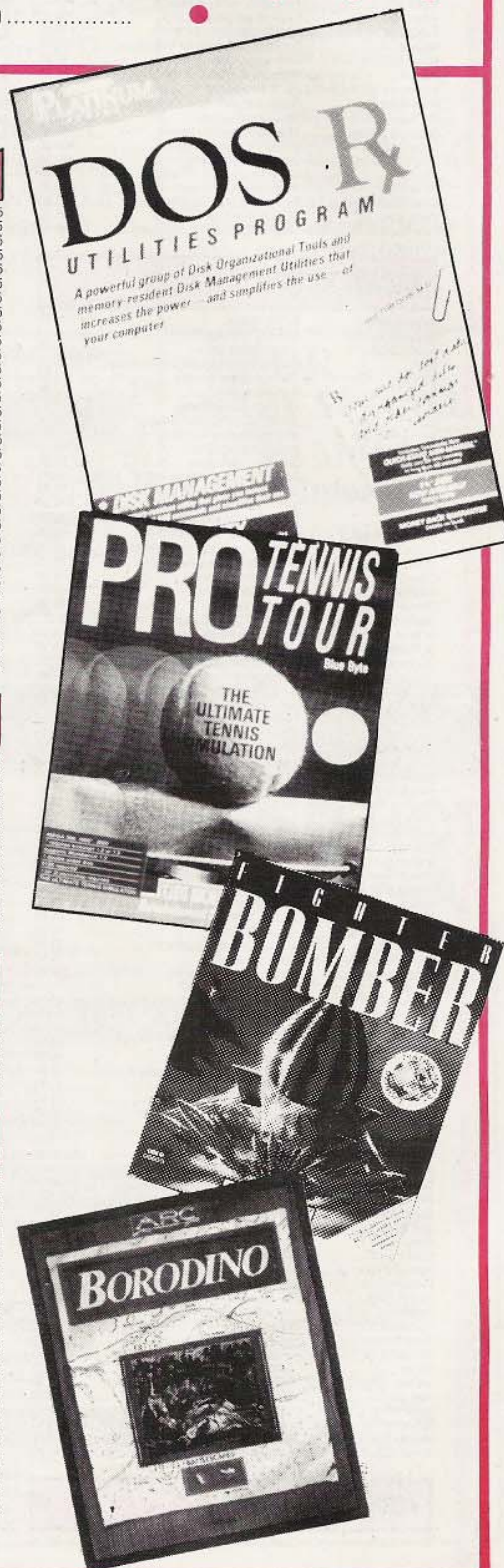
BUSINESS

Attache 4	Accounting package	859.00
B.E.S.T. Accounting	Accounting	540.00
On Balance	Compilation business pack	239.95
Word Perfect 5 Dual	Cash book	89.95
Wordstar Professional	Professional word processor	740.00
	Word processing	670.00

EDUCATIONAL

Crash Course Typing	Typing tutor	64.95
Dinosaur Discovery Kit	Graphics and fun	59.95
FunSchool Series	Educational	59.95
Joshua's Reading Machine	Reading tutor	69.95
Mavis Beacon Teach Typ.	Typing tutor	84.95
Maxi Maths	Educational	34.95
Once Upon A Time	Educational	69.95
Once Upon A Time 2	Educational	59.95
PC Complete Tutorial	Tutor	134.95
Pictionary	Great family game	59.95
Puzzle Story Book	Educational	59.95
Sim City	Control a city	84.95
Stick Alphabet	Learning	69.95
Stick Math Plus/Minus	Tutorial	69.95
Stick Numbers	For the young	69.95
Stick Reading	Quality	69.95
Stick Reading Comp	Series	69.95
Stick Spellgrabber	Comprehension	69.95
Stick Word Problems	Spelling	69.95
Stickybear Spellgrabber	Typing tutor	49.95
Type	Typing tutor	49.95
Where in Europe is Carmen	Geography game	74.95
Where in Time is Carmen	Teaches history and geography	79.95
Where in USA is Carmen	Geography game	79.95
Where in World is Carmen	Geography game	74.95

Prices subject to change without notification



Getting into Video with Deluxe Video III

by Dennis Nicholson

The story so far

● Electronic Art's *Deluxe Video* (Version 1.2) has been gathering dust on my software shelf for the past four years. It wasn't that I detested the program, quite the opposite, I felt it had great potential, but only if it could address more than eight screen colours, and if only the two dimensional object animation could be in three dimensions. *DVideo* just wasn't keeping up with the Amiga's desktop video capabilities.

Well, it seems that *DVideo*'s creator, Mike Posehn of Granite Bay Software, has been having the same thoughts. With the ingenious technical advances of the Amiga, and the growth in the number of sophisticated Amiga users, Mike has been encouraged to enlarge and refine the program.



Pre-production

● Comparing the updated *Deluxe Video* to the original version is like comparing *Deluxe Paint III* to the first *Deluxe Paint*, there is no comparison. The software has been completely re-written to encompass the majority of our favourite computer's graphics abilities.

The program now addresses all resolutions with their associated colours, including the Hold And Modify (HAM) mode, and full PAL overscan is also taken into account, which is great news for people wishing to dump their creations to video without the annoyance of seeing

borders around the screen.

Deluxe Video III is essentially a set of four separate programs (*DVMaker*, *DVPlayer*, *DVMover* and *Instant Slide Show*) which combined, gives the user the power to create multimedia (audio visual) presentations that contain a mixture of pictures, animations, sound effects and music.

Roll camera

● If you have been a *DVideo* user in the past you will be more than pleased to know that the work screen interface has remained almost identical to previous versions of the program, but that is where the similarity ends. *Deluxe Video III* is packed full of powerful, and flexible, options to let its users run amok with their imaginations.

Mind you, more power means that more RAM is required to gain full benefit from the program's offerings. Electronic Arts recommend an absolute minimum of 1 meg. Let me just say that if you are serious about using your Amiga for graphics and desktop video work, you should be using a "serious" amount of memory in the machine.

Three megabytes is a good starting point, and with the price of RAM chips falling almost daily, now is a good time to give your Amiga a power boost. Future graphics/DTV software for the Amiga is not going to diminish RAM requirements, it is going to push it to the very limits! *Deluxe Video III* is no exception!

Earlier versions of *DVideo* saved their finished videos as "one unit", that is, all the pictures, sounds, and the like, were saved bundled together into one large file. Version III works differently, in that it only saves the video "script" information, thus leaving all the required elements in their original places, whether they be on disks in DF0: DF1: or even a hard drive. The reasoning behind this is to make it possible to create multiple video presentations using the same data files. One of *DVideo*'s major breakthroughs is its ability to utilize Anims

and Anim Brushes created with its sister program *Deluxe Paint III*. It is also possible to convert a section of a video presentation into an independent Anim file with the use of an-in-built "MakeAnim" effect. This allows the user a lot of creative freedom due to the fact that Anims constructed within *DPaint III* can easily be inserted into *DVideo III* productions, and vice-versa.

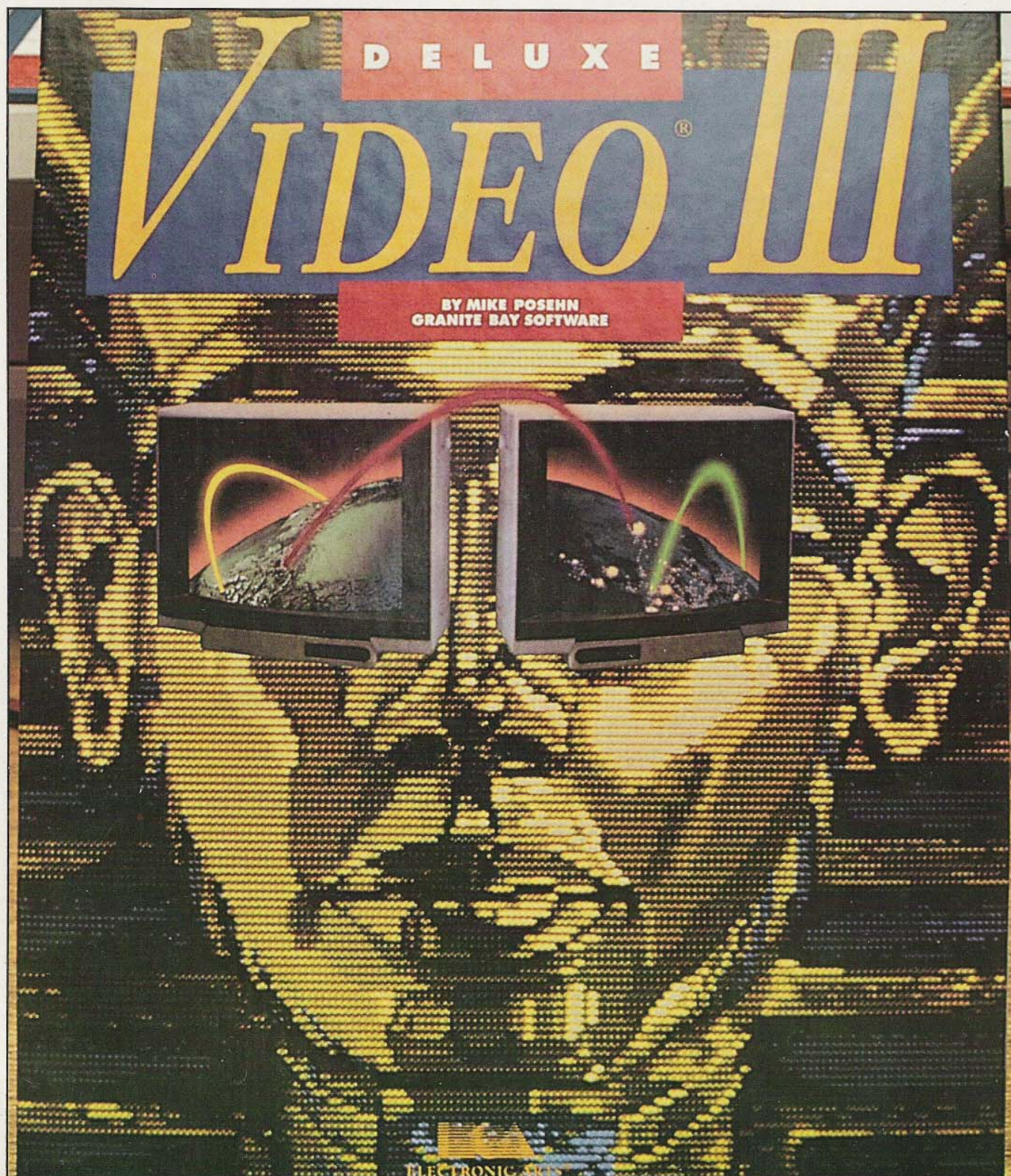
To the uninitiated *DVideo* uses "Tracks" to construct its presentations. The program uses a hierarchical (different level) structure where the user moves through the various "layers" to get to the individual elements of a video. A simple analogy of this is to imagine a single railway line that branches off somewhere down the track into three other tracks. Ignoring the first track for the moment we will call the second branch track "Scene Script", the third track "Effects", and the fourth track "Requesters". Now, if it weren't for the main (first) track we would not be able to get to the others, so it should be called the "Video Script" track, as it controls our access to the rest of the tracks and thus links all the additional tracks to the first.

On the right track

● *DVideo*'s Video Script forms the highest level of the hierarchy, it is the "blueprint" of a video presentation. When *DVideo* is first run a basic Video Script is opened which consists of two Setup tracks called a View track and a Video track. The View track allows the user to define the screen dimensions that he/she requires (High, Low, HAM etc).

The Video track gives the user the option to name the proposed video, what type of image display defaults to use, and to adjust the required timing and control sequences. A Video script can only contain one View track and one Video track. Other empty tracks can be added to the script by dragging a track icon into the script work area. Other tracks available include Background, Control, Device and Tune.

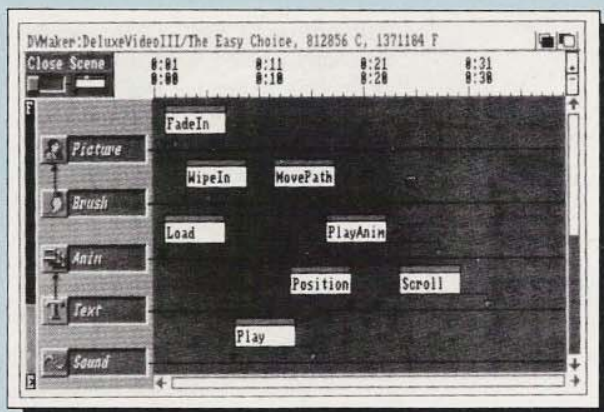
(continued on page 30)



Available from leading computer stores

Dealer enquiries contact
Entertainment & Computer Products
Ph: (075) 963 488 Fax: (075) 963 512

Entertaining Australia.
ECP



The Video track can have one, or more, Scene Scripts attached to it, and they can be modified independently of each other, but Scene Scripts cannot overlap. Moving down into the Scene Script hierarchy you find that each Scene is again made up of a number of tracks, and these particular tracks are called Effects tracks, (i.e; an effect for that scene).

Each Effects track has an associated requester which offers several options for each specific effect. Tracks available for the Scene Scripts include Anim, AnimBrush, BackDrop, BackGround, Box, Brush, Control, Device, Picture, Sound and Textline. The total number of effects available now total 35. If all of the above sounds somewhat confusing don't panic, it is not a problem when everything is neatly laid out for you on the work screen.

Motion control

- Another excellent addition is the MovePath facility. This allows the user to define the movement of a brush by simply dragging it across a preview screen to any desired location. The path will then be used by DVideo to control the brush's final movement. Paths can also be edited at a later stage with the "What And Where" option in case you wish to alter its direction, or even change a brush's window size.

One striking example included with the program shows an AnimBrush of a Cockatoo as it is released from a human hand and proceeds to fly across the screen fighting a rather strong head wind. The only thing missing is the sound of the squawking bird.

A Relative Motion option pushes *Deluxe Video III* to the top of the desktop video class. It is now possible to achieve true relative motion by attaching one

moving object to another moving object. One such example quoted in the manual is that of a moving "planet" brush. A "satellite" brush can be made to move (orbit) around the planet as both objects move in unison along a pre-determined path. Imagine the possibilities! Attaching spinning propellers to aircraft, spinning wheels on vehicles, if you can think of it *Deluxe Video III* should be able to do it!

Credits

- *DVideo III* will accept fonts from any drawer, and the Textline requester is very user-friendly with a preview facility included where you can view text before committing it to a video. Text placement is accomplished by dragging finished text to the required screen location. ColorFonts are fully supported if you wish to use the many eight-colour fonts that are available.

The Cut and Paste features in *DVideo III* are much more powerful than its predecessor's. It is now possible to cut and paste tracks, effects and even scenes within a video. You can even cut and paste from one video to another without any drama. With one simple mouse click it is now possible to Append (join) one video presentation to another. This gives the user the option to connect several small presentations to make one long uninterrupted video production. This is ideal way of making long videos for people who are lucky enough to have Amigas with hard drives installed.

But there is more, much more! IFF images can be used as patterns behind other images to create unique screen effects. Brushes can be used to Tile backgrounds, and Super Bitmaps (images bigger than the visible screen) are now available to allow for scrolling backgrounds (great for

cartoon-style animation, and the creation of scrolling credits).

With the use of special "Wait" and "GoTo" effects tracks that can be laid within a presentation, inter-active videos can be easily assembled. These can be classified as EUI videos (my own term). End-User-Involvement videos are designed to wait for the viewer to click a particular screen button so that the program can move to their selected choice.

The sound area of *Deluxe Video III* has not been overlooked as the program now supports both 8SVX sound and SMUS music files, plus full MIDI (Musical Instrument Digital Interface) output for professional quality music.

The big time

- For the more adventurous amongst you *Deluxe Video III* also contains an "Expert" mode which allows the user even more flexibility. Flipping over to Expert mode gives the user access to more tracks and effects such as AREXX scripting, genlocking devices and other video-related output modes, to mention but a few. Turning on this mode can introduce the possibility of making more mistakes as you no longer have the "idiot-proof" mode running.

But with care and a clear knowledge of the program's abilities it does give you an amazing amount of creative freedom. For example, the available scene effects in normal mode number 14, switching over to Expert increases the number to 24.

If you rush headlong into *Deluxe Video III* without reading the manual you are definitely asking for trouble. Even seasoned *Deluxe Video* users will get lost in Expert mode unless they take some time to peruse the relevant sections of the manual. (For first time users these tracks can become as confusing as trying to find your way around the Paris underground without an English/French guide book!) Expert means Expert!

Editing

- A completed video can be made up of many separate elements, such as still images, animations, music and various sound effects. The DVMover utility has been provided to make the transfer of all the individual data elements to a new location as painless as possible. If, for example, you wish to transfer a video that was originally made up of images and

sounds gathered from several floppy disks onto one disk, then DVMMover can be used to copy all the parts from the different floppies onto a new disk. DVMMover will also make sure that the Part drawer names written into the original Video script are changed to match the new location of all the parts files. A "Get Sizes" option gives users the ability to read the byte size of a selected part. This handy feature helps you judge the amount of disk space that will be required to store all parts.

The premier

● A DVPlayer program acts as the viewer for completed video productions. It can be also be used to link and show any number of separate videos. Electronic Arts allows this utility to be freely distributed with your finished productions so they can be viewed without the need of the main DVMaker program.

Spin-offs

● Instant Slide Show is the fourth, and final program, supplied with *Deluxe Video III*. It can be used to create slideshow presentations utilizing any IFF images. Using this program in conjunction with the DVMaker program gives the user the opportunity to combine animations within slide shows, and to make use of many special effects, such as screen wipes. Assembled slide shows can be saved and shown independently of the other *Deluxe Video* programs.

Critic's corner

● I have two criticisms, but they are not related directly to the *DVideo III* program. The first involves the example videos supplied with the software. They could have been produced in a more professional manner as they do not do the program real justice. In fact, several of the examples are just basic updates of earlier versions, and to a first time user of *DVideo III* they would not impress.

Secondly, and more seriously, Electronic Arts in America offer owners of earlier *DVideo* versions a very good upgrade policy. For the payment of \$50.00U.S. (plus the cost of shipping and handling) they will upgrade owners to the latest version. It seems that *Electronic Arts* authorised Australian distributor, ECP, will not offer such a policy, and any local *DVideo* owners wishing to update their software will have to contend with overseas bank drafts, air mail and customs.

As for *Deluxe Video III*, I have no grumbles concerning the software, as long as your Amiga has plenty of RAM then the program will perform all its tricks with little hassle. If I were to mention all of *Deluxe Video III*'s attributes this review would take up most of this issue. All I can really add is that Mike Posehn has done to *Deluxe Video III* what Dan Silva has managed to do with *Deluxe Paint III*, and that is to turn it into a full-featured software package that will again make the Amiga shine brightly amongst the desktop video stars. This is one software package that will definitely not be

gathering any dust on my software shelves!

● Basic hardware requirements: Amiga 500, 1000, 2000, 2500, 1meg of RAM or more. Two disk drives - hard drive recommended.

● *Deluxe Video III* is a four-disk set distributed by ECP (075) 96 3488. RRP \$164.95.

Dennis Nicholson is the Editor of *Graphics-Palette*, the graphics/DTV disk magazine for the Amiga. □

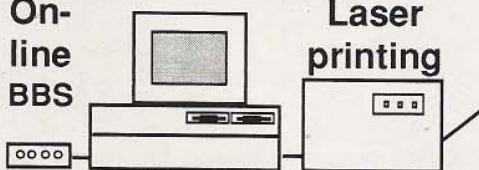
Super Workbench Release II

Now includes SID, a mouse driven disk management utility similar to Diskmaster. Copy files, create directories, view images, listen to sampled sounds, read text and much more. Fully configurable, full documentation. PLUS latest DMOUSE, WICON and ARP 1.3 still only \$8.95 plus \$2 p&p.

Free order line
008 252 879

AMIGA BUREAU

On-line
BBS



Laser
printing

Desktop Utilities

- Postscript laser printing 300dpi
- ASDG distributors for Australia
- File transfers between disk formats
- We read Amiga/IBM/Mac/Atari disks
- On-line upload facility (up to 9600)
- Major Amiga packages supported

Desktop Publishing - File Transfers

Ultra convenient - an online bureau! Send a disk or upload files for printing to our bulletin board (BBS) via modem. Our BBS supports 300, 1200, 2400 or (soon) 9600 Baud. Mastercard & Bankcard are accepted on line. **Printing only \$5 setup & \$1 or less per page.** Colour separations. File transfers & conversions. Graphic art service. Sharp colour scanner sales & image scanning service.

PO Box 3053 Manuka ACT 2603

Message Line: 062 - 39 6658

Bulletin Board: 062 - 39 6659

Australian distributor for
ASDG

Professional Scanlab \$1300
interface card & software for Sharp
high resolution colour scanner
Dual Serial Board \$280
connect 2 serial devices at once
RESEP image processor \$70
Facc II disk accelerator \$40
Cygnus Ed fast text editor \$120
Prices are RRP including tax

For details and prices call
our BBS or ask for our
leaflet. We are on line
most hours / 7 days.

Desktop Video - the first of a regular series

by Brett Sullivan

Vidtech's Scanlock



BEFORE I REVIEW VidTech's genlock, the Scanlock, I will briefly describe what a genlock does.

Desktop Video requires computer graphics to be transferred to videotape. The usual requirement is to either record computer graphics directly to tape, or to combine the graphics with pre-recorded or live video footage to then be recorded to tape.

In either case a genlock is required. A genlock is necessary for any desktop video project as it is impossible to make clear and stable recordings without one. If you try recording Amiga graphics to videotape without a genlock then the taped images will be unstable and contain glitches. This is because the signals from the computer are not synchronised with the signals being produced from the video recorder.

A genlock takes the RGB signals from the Amiga and the appropriate video signals from the reference source (which may be another VCR or video camera which contains the footage on which the computer graphics are to be overlaid) and combines them to form one harmonious video signal. This video signal, which may be a composite signal for most video systems or S-VHS signal for S-VHS systems, allows video recorders to

decode the information and record the imagery properly.

When mixing Amiga graphics with video footage a genlock takes the computer screen output, which normally goes to the monitor, and superimposes it over the live footage (a genlock cannot place the computer graphics behind the video footage). Areas that are black in the computer image become transparent - these are the areas the video footage shows through.

Scanlock

● There are now quite a range of genlocks available for the Amiga and the Scanlock VSL-1 is the latest genlock released. VidTech, a Florida based company, have realised the potential of the Amiga in Desktop Video and have joined a group of companies building relatively inexpensive genlocks (by TV and video standards) to meet broadcast quality requirements.

The Scanlock is an external genlock that is designed to sit under the computer monitor. It is slightly wider than the monitor but is shorter than the width on the Amiga computers. For those who may be using the Scanlock in a video studio the device is rack mountable but unfortunately is not the standard 19 inch

rack mount width.

The Scanlock can be powered either by the computer or by an external power pack. A500 and A1000 owners will probably find it necessary to use an external power source as these computers will not have enough power to operate the genlock. A switch on the front of the panel determines the power source.

When genlocking, the equipment needed besides the Amiga and the Scanlock is a video recorder, and a video camera or a second video player to provide the reference signal. The Amiga's RGB output is connected to the Scanlock to provide the incoming RGB computer signal. The RGB monitor cable that usually connects the Amiga to its monitor is instead connected to the Scanlock so as to view the Amiga graphics in RGB mode as one normally would. A reference signal is then connected to the Scanlock when needing to superimpose graphics over video footage. To view and record the final output the Amiga's monitor, or another monitor, and the recording VCR are attached to the Scanlock's two outputs. Having two outputs also allows for the imagery to be recorded onto two VCRs simultaneously.

Front panel

● The front panel of the Scanlock is clearly marked and easy to operate. To the right of the power source switch is an indicator telling which video mode is being used - PAL or S-VHS. Switching between the two is simply done by pressing the flat membrane button as is the case with the other selectors. The next four selectors: Reference, Amiga, Key and Fade, control what final output the Scanlock sends to the video recorder or monitor. Reference will display the reference signal without any Amiga graphics, Amiga will display only the Amiga graphics, Key will superimpose the computer images over the incoming reference video, and Fade will allow the reference or Amiga signal to be faded and dissolved. Amiga graphics may be faded up over video footage and vice-versa. Two horizontal faders, one for the reference signal and the other for the Amiga graphics are used

to control the fades which go from black to one hundred percent image.

It is a good feature that each of the signals can be independently controlled for they allow for more flexible operations. For example, this allows the reference signal to be faded up while the computer graphics may stay at one hundred percent, or the computer graphics can be used as a "transparent wash" over the video footage.

To the right of the faders is another selector allowing for reverse keying. Reverse keying is where the reference video can only be seen through areas that are not black in the computer image. Areas that are black in the computer will be black when superimposed over the reference signal. It is possible to create vignettes and windows simply by using a paint program to fill in the area that is to be transparent when superimposed over the video footage.

On the rear of the Scanlock are the various input and output connectors. Input and Output connections are in standard BNC format for composite PAL signals or are in S-VHS format. There is also room to connect a remote control unit to control the selectors found on the front

panel.

On the side panel are two parameters which can be adjusted to suit specific needs. The horizontal centring position of the Amiga graphics may be adjusted with respect to the reference video. Also, the intensity of the contrast in the graphics may be adjusted.

I found the Scanlock to provide a clean image with a minimal amount of bleeding colours. I found the pre-set contrast setting to be a little too high and there was some slight tearing down the left side of the screen. The contrast setting was easily adjusted but the tearing problem could not be fixed. Although the tearing was slight it was noticeable and annoying. I hope this problem is only unique to the particular Scanlock model I was operating.

What is particularly practical is that the unit can be bypassed allowing the Amiga to be used normally. A genlocking configuration may be permanently set with the Scanlock being activated only when needed. The Scanlock also has an internal sync generator which means that when no reference source is connected to the Scanlock it displays the Amiga graphics only. If there is a need to trans-

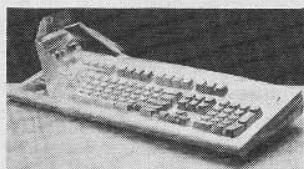
fer computer images without background video footage, a reference source is not absolutely necessary. But to ensure a completely stable image it is recommended that a stationary video camera or blackburst from a video vision mixer be used to provide a steady reference signal. It must be remembered that the quality of the reference signal determines the quality of the genlock's video output.

VidTech have produced a tight and compact genlock which has all the necessary features to suit the more advanced desktop video enthusiast and professional video operator.

The Scanlock is distributed in Australia by MagnaTech (02) 427 0666 and is available at \$1895 including tax. It was pointed out to me at the time of the review that MagnaTech covers warranties for those Scanlocks purchased in Australia but does not cover those that are purchased directly from VidTech in the United States.

The book which I wrote late last year is currently being published by Federal Publishers and will be available early this year. It is titled "Desktop Video" and looks at an introduction to television, video and computer imagery; graphics software; graphics hardware; design; and Desktop Video production. □

Computer Accessories!



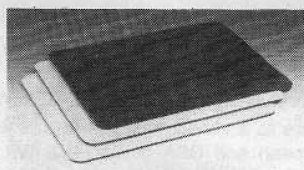
KEYBOARD SKINS™



PERF-BUSTER™



DISK-DOCTOR™



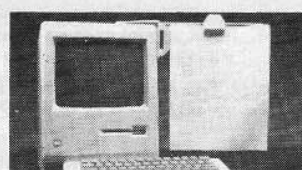
MOUSE-MAT™



MOUSE-HOUSE™



DUST-COVERS™



COMPUTER-HAND II™



MOUSE-HOLDER™



MOUSE-DOCTOR™

ACI

American Covers Inc.

Distributed in Australia
by:

COMPUTERMATE
products (australia) pty. ltd.

P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080. Ph: (02) 457 8118 Fax: (02) 457 8739.

M.A.S.T GOES DIRECT- NO DEALERS GREAT PRODUCTS AT GREAT PRICES

Memory And Storage Technology Pty Ltd is proudly Australian owned, selling a variety of Australian designed Amiga peripherals. We have opened our own offices in the USA, United Kingdom and West Germany. Our small company started in the lounge of our house in 1987, and has grown to be one of the top four Amiga peripheral suppliers to the US market (we are the leading supplier of Amiga compatible external floppy drives). Unfortunately Australian dealers have been less than supportive to our company. The Australian magazines are little better - a review of Australian developers last month in this very magazine neglected to mention the most successful local developer-MAST. When we attended the recent PC show in Sydney recently, half the customers thought that we were a US based company. To the point, we are fed up with this situation and are implementing a policy of direct selling, either through our retail outlet Computer Discounts (Aust) Pty Ltd that handles tax inclusive prices on most MAST products, or through MAST (ex tax, government orders and printer sales). There is no longer any distinction between dealer and end user - the only discounts apply to quantity purchasing and apply equally to anyone.

MAST IS INTERESTED IN MARKETING THROUGH OUR INTERNATIONAL OUTLETS, SUITABLE HARDWARE AND SOFTWARE DESIGNED BY LOCAL DEVELOPERS.

FLOPPY DISK DRIVES:

A2000 INTERNAL \$149

This quiet, low profile floppy drive is manufactured by Fujitsu - Japan's leading computer company. The drive includes a **FRONT BEZEL OF THE CORRECT SIZE FOR YOUR A2000**, and MAST proprietary **NO CLICK LOGIC**. GREAT VALUE.

ENHANCED UNIDRIVE \$199

We call it the **Ultimate Drive**. This external 3.5" floppy drive includes a **DIGITAL TRACK DISPLAY** (great for watching how your files are fragmented over the disk). The DTD looks great, however the really important feature of this product is the built in **HARDWARE VIRUS PROTECTOR**. The Enhanced Unidrive has three switches on the back panel - deselect, write protect track zero, and write protect all tracks. It is impossible for a write to occur when these switches are set. A front panel LED indicates the status of the write protect switch. Another led indicates any write activity to track zero, and a third any write activity to the remainder of the disk. The status of the latter two led's is latched - no missing even the fastest virus. Naturally the Enhanced Unidrive includes a quality Fujitsu mechanism, pass thru, and is so low power, that ventilation slots are not required. It also includes our new custom extruded case that matches the new Tiny Tiger. **This is great value considering that many no frills drive are priced at or above the Enhanced Uni. PLEASE NOTE THAT EXISTING UNIDRIVE OWNERS MAY UPGRADE TO AN ENHANCED UNIDRIVE FOR \$49 (we use your existing drive)**

UNIDRIVE \$159

The Unidrive is the MAST standard external floppy drive. A quality Fujitsu mechanism in a streamlined case makes this product the choice of many. Its new extruded case and the addition of pass thru will entice even more customers. This product can be upgraded in the future to our Enhanced Unidrive.

TWINDRIVE \$299

If you like the Unidrive, then why not buy two - all in one case. Not only that, a twindrive costs less than two unidrives. For a small footprint multiple external drive system, Twindrive is the solution. **Unbeatable value at our new NO DEALER PRICES.**

AMIGATOSH \$299

This small footprint unit is a fully Macintosh compatible disk drive - ideal for use with A-Max. The mechanism is manufactured by Fujitsu and includes auto eject.

HARD DRIVES:

FIREBALL - A2000 SCSI DRIVE SYSTEM

Fireball is an A2000 compatible SCSI Controller. Another great Aussie design, this product is a true DMA controller. Unlike programmed I/O controllers that appear to perform well under Diskperf (that disables multitasking and is a very poor indication of real system performance), Fireball keeps on going on. With the speed to handle the most demanding of tasks, Fireball features led's to indicate DMA activity, autoconfigure and system access. Fireball can also be

be configured to operate in several different DMA modes. It is compatible with overscan mode. Fireball is faster than the GVP card.

Fireball - Controller Only \$299. The hard card is available by itself however it is most commonly purchased with the drive included. Fireball can have the drive mounted on the card in a H card arrangement, or with the drive separately mounted in the computer.

Fireball 45 meg \$999 Fireball 90 meg \$1599

Fireball 136 meg \$1899 Fireball 182 meg \$2249

TINY TIGER - EXTERNAL SCSI DRIVE FOR ALL AMIGAS.

Tiny Tiger is a SCSI drive in an external case - and what a case! The front panel of TT features a variety of status indicators, including current SCSI address. DIP switches allow the drive to be easily configured. TT will plug into any SCSI interface including Fireball, The Infinity Machine and the MAST Portable Interface. TT also plugs into a Macintosh or PC (requires scsi interface). It is available with quality Fujitsu High Performance Drives (2 year warranty, optional 5 year), or with quality Conner drives (slightly lower performance, 1 year warranty). **Every Tiny Tiger sold for an Amiga includes our proprietary Portable SCSI Interface - plugs into any Amiga, makes a great portable drive system when used with TT.**

20 meg \$799 45 meg \$1099 90 meg \$1599 100meg \$1499

136 meg \$1949 182 meg \$2299

SPECIAL OFFER - PURCHASE A TINY TIGER AND WE WILL SELL YOU OUR 2 MEGABYTE MINIMEGS MODULE FOR THE SUPER LOW PRICE OF \$399. MINIMEGS MUST BE PURCHASED WITHIN 90 DAYS OF YOUR TT PURCHASE. IF YOU ARE THINKING OF AN A590, MAYBE YOU WOULD LIKE TO RECONSIDER.

MINIMEGS - 2 MEG RAM \$499 (A500 & A1000 versions)

MICROMEGS - A501 CLONE \$159

MAXIMEGS - 2 meg \$449 2.3meg \$499. This unit plugs into the A501 connector. Includes clock. Most importantly 2 meg of the available 2.3 meg can be used as display RAM - yes it can be accessed by the blitter - imagine the possibilities, 2.5 meg of graphics memory. Call for a data sheet on this intelligent, very innovative memory product.

OCTOPLUS - 8 meg ram for the A2000, pop 2 meg \$499

SOFTWARE: 10% GUARANTEE - SEE BELOW

Computer Discounts has access to a variety of software that we source directly from our European and USA offices. **WE WILL SUPPLY ANY SOFTWARE TITLE THAT IS A NORMAL STOCK ITEM FOR AT LEAST 10% BELOW ANY PRICE ADVERTISED IN THIS ISSUE OF THE MAGAZINE.** This offer does not apply to dealers or distributors. We also reserve the right to limit the offer to one item per title per customer. **SEND FOR SOFTWARE CATALOGUE - IN MANY CASES YOU WILL FIND EVEN GREATER SAVINGS THAN OUR GUARANTEED 10% BELOW. WE WANT YOUR BUSINESS.** Our software offer is valid until 11th May 1990 (it will be reviewed on a month to month basis). Our guaranteed offer is based on prices advertised by competitors and made available to anyone in the public on an unrestricted basis, it does not apply to prices that are part of a bundle.

3.5" DS DD DISKETTES \$1.35 qty 100 \$1.45 qty 50 \$1.50 qty 10

COMPUTER DISCOUNTS (AUST) PTY LTD 19-21 BUCKLAND ST CHIPPENDALE 2008
POSTAL ADDRESS: BOX 249 BROADWAY 2007. TEL (02) 281 7411 FAX (02) 281 7414

TOMORROW'S PERIPHERALS TODAY...



TINY TIGER 0, 45, 90, 136 AND 180 MEG EXTERNAL SCSI HARD DRIVES

OPTIONAL
5 YEAR WARRANTY

SCSI LETS SEVEN
DEVICES CONNECT
TO YOUR COMPUTER
COMING:

- SYQUEST 45 MEG REMOVABLE
- HIGH CAPACITY 5 1/4"
- SCSI RAM DISK
- SCSI FRAME GRABBER

QUALITY FUJITSU
MECHANISM

REMEMBER — FUJITSU HAS AN
MTBF OF > 130,000 ON ITS
HIGHER CAPACITY DRIVES
WITH REAL ACCESS TIME
OF 12 MSEC.



- FAST ACCESS
- CACHE MEMORY
- HIGH MTBF
- LOW POWER
- PLUGS INTO ANY SCSI INTERFACE
- MAY ALSO BE USED ON A MACINTOSH®*

SCSI INTERFACES FIREBALL

A2000 SCSI INTERFACE

- AUTOBOOT
- TRUE DMA
- HIGH SPEED



MAST SCSI INTERFACES FOR A500 AND A1000
INCLUDE:

- PARALLEL SCSI ADAPTER — IDEAL FOR A PORTABLE SCSI SYSTEM
- FIREBALL JUNIOR — A SCREAMER: AUTOBOOTS
- THE INFINITY MACHINE — 68030 ACCELERATOR

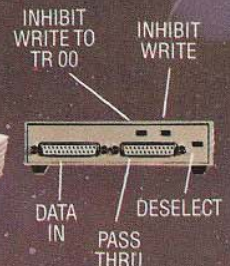
FLOPPY DRIVES ENHANCED UNIDRIVE INCLUDES TRACK DISPLAY AND VIRUS DETERRENT



DIGITAL
TRACK
DISPLAY

TK00
WRITE
INDICATOR

WRITE
INDICATOR



OTHER FINE MAST FLOPPY DRIVES INCLUDE:

- UNIDRIVE (NOW WITH PASS THRU)
- TWINDRIVE (ENHANCED VERSION SOON)
- A2000 INTERNAL
- EXTERNAL 5 1/4" (SOON INCLUDES ENHANCED FEATURES)
- AMIGATOSH + — A FULLY MAC® COMPATIBLE DRIVE THAT PLUGS DIRECTLY INTO A MAC OR AMIGA.

*REGISTERED TRADEMARK OF APPLE COMPUTER

MEMORIES



MINIMEGS

2 MEG EXTERNAL FAST RAM

OTHER MEMORY PRODUCTS INCLUDE:

- OCTO-PLUS — 8 MEG MEMORY FOR A2000
- MICROMECS — THE SENSIBLE LOW POWER A500 CLONE
- PICOMECS — MEMORY EXPANSION FOR THE INFINITY MACHINE

NEW PRODUCT MAXIMEGS 2 MEG RAM

PLUGS INTO A501 CONNECTOR
PROVIDES 2.5 MEG OF
DISPLAY MEMORY!!

GREAT FOR ANIMATION.
WE OFFER A GREAT TRADE-IN
ON A501 AND CLONES!!

COMING SOON:

THE INFINITY MACHINE

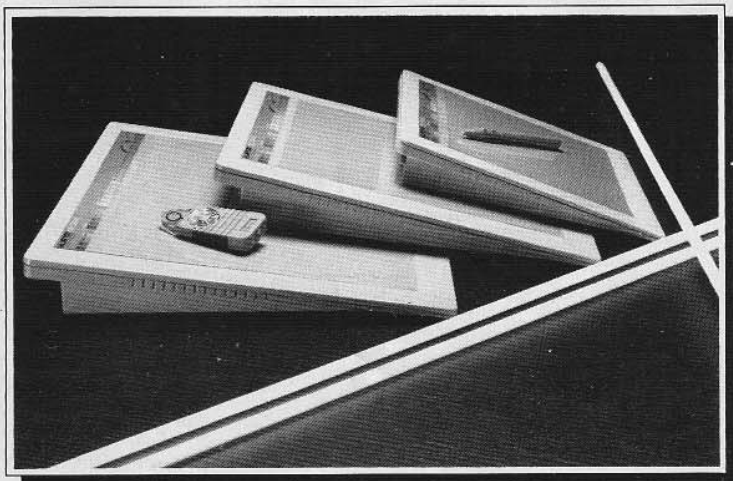
68030 16-50MHz
32 BIT RAM 1-64 MEGABYTES
68882 MATH COPROCESSOR
HIGH SPEED SCSI (AUTOBOOTS)
A500 A1000

**M.A.S.T. TECHNICAL
EXCELLENCE**
MEMORY AND STORAGE TECHNOLOGY

19-21 BUCKLAND ST, CHIPPENDALE, NSW 2008 TEL (02) 281 7411 FAX (02) 281 7414
USA TEL (702) 359-0444 W. GERMANY - CALL UK - CALL

The friendly interface Kurta's Graphics Tablet

by Brett Sullivan



FRIENDLY USER INTERFACES have brought computer power to the masses. The user interface is a very important device. It is used to communicate information between the user and the computer.

A mouse is the most common device used to input information for graphics work. For artists and designers it may not be the ideal instrument to use when drawing or designing artwork on computer. A mouse can be difficult to manipulate when drawing freehand curves or adjusting fine picture details. An alternative interface is a graphics tablet, which allows artists and designers to be far more natural in the way they work.

A graphics tablet is a small drawing board with a pen-like attachment that allows a drawing to be made and have it relayed to the screen. The pen glides over the surface of the tablet even though it does not have to actually touch the board. The tip of the pen presses in and performs the functions of the left mouse button. A small button situated where the index finger rests acts as the right mouse button would.

The reason why artists and designers find a tablet easy to work with is largely because it provides absolute positioning compared to a mouse which provides relative positioning. Absolute positioning means that when the pen is removed from the tablet surface and then replaced in another position on the tablet, the screen pointer immediately repositions it-

self to the corresponding new location. Absolute positioning can be similarly compared to the drawing toys that were popular several years ago that allowed for images to be traced and duplicated on another page simultaneously. The relationship, however, between a mouse and the screen pointer is such that if a mouse is picked up and placed elsewhere, the screen pointer does not move.

Another advantage with a graphics tablet is that it allows for finer control when creating images. A mouse usually operates in a 10cm X 10cm area which represents the entire screen whereas a tablet has a larger working area providing for greater precision in the control of the cursor.

The Kurta IS/ONE series of graphics tablets for the Amiga come in three sizes: 22cm X 28cm, 30cm X 30cm and 30cm X 42cm. Accompanying the variety of tablet sizes are a range of pointing devices. Pens are available as either corded or cordless. For those who are going to be using the tablet frequently for serious graphics work, the cordless pen is the preferred choice since it is the closest thing to a real pen and allows for artwork to be created rapidly.

Other possible pointing devices are cursors which are more suited to CAD applications. The range of cursors include 4 button corded and cordless, 12 button corded and 16 button corded.

The computer interface software that

communicates with the tablet is referred to as a driver. The tablet is connected to the computer through the serial port and is then driven by the *Pencraft* driver which interfaces the Kurta tablet with the Amiga. *Pencraft* is on disk and may be loaded at any time or be automatically booted through any startup-sequence. Once in memory, the *Pencraft* driver stays resident until it is removed or the computer is shut down. The tablet will only work if the *Pencraft* driver has been activated.

Pencraft is also used to change tablet settings. When the *Pencraft* icon is opened there are four menus to choose from: Project, Tablets, Active Area, Softkey and Help.

Project is simply used to save settings, quit or de-activate *Pencraft*.

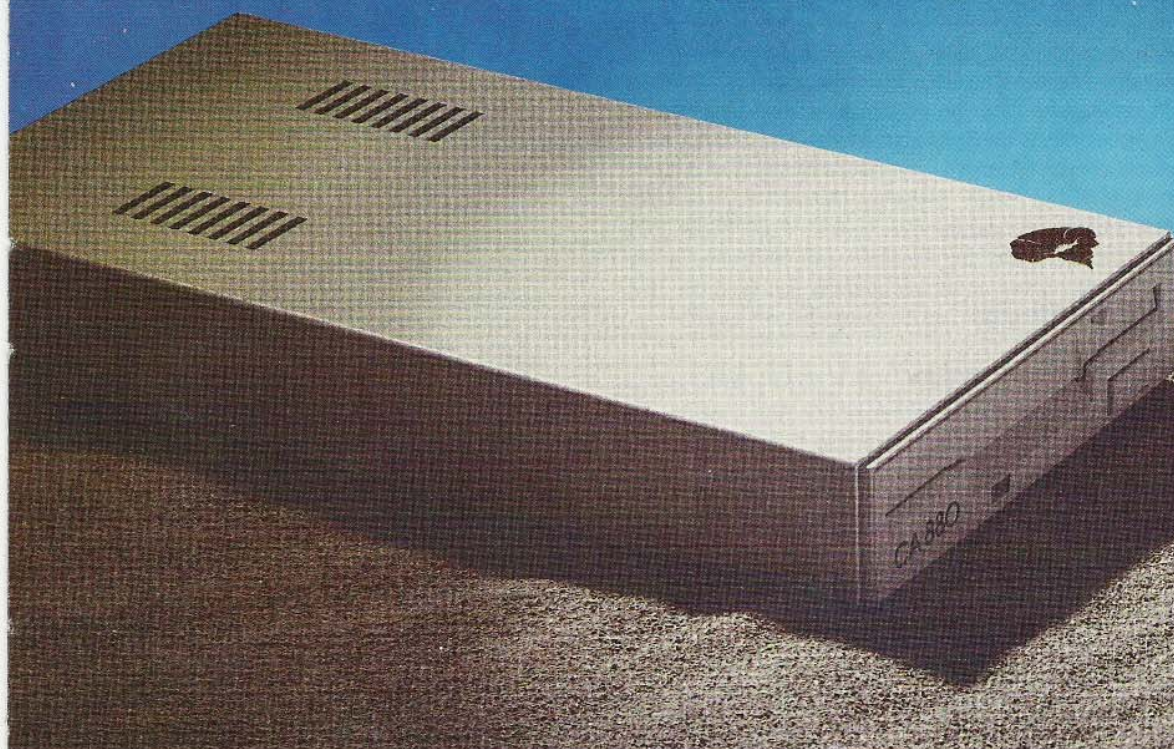
The Tablets menu is used to select configuration choices for the tablet being used eg. size, baud rate etc.

Under the Active Area menu any area of the tablet surface may be mapped to any area of the screen. Defining a large active area allows for fine control of the screen pointer. A small active area requires less hand motion and provides for rapid and coarse control of the pointer - similar to using a mouse. This menu also allows for the Match Aspect Ratio to be changed. Maintaining an aspect ratio similar to the ratio of the computer screen assures that tracing an shape on the tablet will reproduce the shape in similar proportions on the screen. If the Match Aspect Ratio is changed then the shape may appear stretched in width or height. Experimenting with the aspect ratio can produce some interesting results when using paint programs.

Help accesses information concerning configuration settings for the various tablets.

The Kurta range of tablets have programmable function keys at the top of the unit which helps eliminate the need to access the keyboard to input information or perform graphics functions. Defining what tasks these function keys perform is accessed through the Softkey menu. A series of keystrokes are assigned to a function key, and/or to a cursor but-

(continued on page 38)



CA-880 from California Access The Best Amiga Drive **RRP \$229**

Here are some of the comments from thousands of happy Australian users:

"Sales people from two different computer stores recommended California Access. They stopped stocking other brands because of breakdowns in the first 12 months." . . . Mr. John Goodman, Ingleburn, NSW.

"Best Amiga 3.5" Disk Drive I've seen." . . . Mr Paul Garvin, Hallem, Vic.

"Very pleased with product both in performance & competitive price." . . . Mr B. M. Sauer, Armidale, NSW.

"Impressed with the compact size, quiet operation & I like the on/off switch." . . . Mrs. Brenda Colautti, Greensborough, Vic.

"Excellent low cost product." . . . Mr. Jason Smith, Spring Hill, Qld.

"Very quiet, slimline unit. Easy to locate on table. I'm extremely pleased." . . . Mr Mark Mansfield, Devonport, TAS.

"The CA880 Disk Drive is an excellent product & worth recommending." . . . Mr. W. Hanoldt, Kareala, NSW.

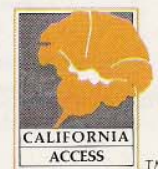
Join the club! Buy a CA-880 from your favourite Amiga store and enjoy your trouble-free 12 month no-fuss replacement warranty.

For more information, call or write to:

Computamart

Computamart Pty. Ltd., 622 Newcastle Street, Leederville, W. Australia 6007
Telephone (09) 328 9799, Fax (09) 227 7324, BBS (09) 328 4217

Bringing the world of Amiga to you fast!



MEGADISC

TO MAKE THE MOST OF YOUR AMIGA

New Toll-free Number for ORDERS ONLY - 008 227418

MEGADISC was designed to help you really learn how to use your Amiga. Tutorials, articles, reviews, hints and tips, useful software, and much more are included to help both the beginner and the veteran to use the Amiga more productively. Not too serious and not too lightweight, MEGADISC entertains you while you learn. Available as single issues, subscriptions of any 3 or 6 issues (past or future), or as a TRIAL PACK (including MEGADOS, our Amiga Manual-on-Disk and MEGADISC 14, and our Catalogue-on-disk). If you get a TRIAL PACK, you can subscribe later for the lower rate mentioned below. Megadisc subscribers get lower prices on all our products, including our 1000 public domain disks. Every Megadisc has the latest VIRUS-KILLER.

MEGADISC 15 IS NOW AVAILABLE!

NEW Special offers!

THE ENTIRE MEGADISC SERIES

Order MEGADISC 1-14, MEGADOS and 4 free Public Domain Disks for \$170!

That's 19 information-packed disks! (You can order your PD disks later.)

BEGINNER'S PACK - 3 DISK SET

Best of MEGADISC, Best of PD Utilities, Best of Graphics and Games in *special disk box* for \$29

MEGADOS

AmigaDos Manual-on-disk, with all you need to know about CLI, Workbench 1.2, 1.3 and ARP described in layman's terms for \$19.95. Price for current subscribers \$13.95

TRIAL PACK

MEGADISC 14, MEGADOS, AND CATALOGUE-DISK for \$29

PAST AND CURRENT SUBSCRIBERS - RE-Subscribe for less!

\$45 instead of \$50 for a 3-issue subscription (free PD incl.)

\$80 instead of \$90 for a 6-issue subscription (free PD incl.)

PUBLIC DOMAIN DISKS FOR \$5.50 each, \$4.50 for subscribers

All our 1000 disks are fully described on the free Catalogue-Disk

NEW PD 10-Pack (10 selected PD disks) \$55

GET OUR 'GAMES PACK' - 10 Disks full of Games - \$55

3 Disk Animation Set \$15 - 20 TOPIK Disks for \$99

WE ALSO TAKE BANKCARD, MASTERCARD and VISA ORDERS BY PHONE OR FAX
CONTRIBUTIONS OF ANY KIND ARE MOST WELCOME - PLEASE CALL

Non-Subscribers: Please add \$2 P & P if ordering Public Domain disks only

I enclose a Cheque/Money Order for or please charge my Creditcard
Mastercard/Bankcard/Visa No: Exp:
Please send me: Catalogue-on-Disk AT NO COST: TRIAL PACK \$29
ANY 6 issues of MEGADISC for \$90 (please specify): [\$80 for re-subscribers]
ANY 3 issues of MEGADISC for \$50 (please specify): [\$45 for re-subscribers]
MEGADISC 1-14 and MEGADOS and 4 P.D. disks for \$170:
The 4 free PD disks I want (2 in the case of a 3-issue sub) are:
OR please send your Catalogue-on-Disk now and I will choose the remaining disks later:
10-DISK GAMES PACK for \$55: PD 10-Pack in box for \$55
BEGINNER'S PACK (3 DISK SET for \$29)
MEGADOS AMIGA DOS MANUAL-ON-DISK FOR \$19.95 FOR CURRENT SUBSCRIBERS \$13.95
3 DISK ANIMATION SET for \$15 20 TOPIK DISKS for \$99
Signature:
Name:
Address:
Postcode: Telephone: Date:

Send to: MEGADISC, P O BOX 759, Crows Nest 2065.
Telephone: (02) 959 3692 (all hours) FAX: (02) 959 3525

ton if desired. By using the function keys the tablet becomes a complete input system. I took *Sculpt-Animate 4D*, which makes use of many keyboard equivalents associated with menu commands, and assigned these keystrokes to the function keys on the tablet.

Keystrokes may also be a combination of two keys pressed at the same time. This is the case with *Sculpt-Animate 4D* where the right Amiga button is pressed in conjunction with another key to activate a tool. While using *Sculpt-Animate 4D* I found that simply pressing the tablet function keys to use different tools was a much quicker method than using keyboard equivalents, particularly since they involved two keys at the same time.

Although a graphics tablet is a far more natural way to create images my initial attempts in using the tablet were clumsy and awkward. This was entirely due to being accustomed to using a mouse. It only took about an half an hour before I felt comfortable and confident working with the tablet.

I found using a pen much easier to sketch and draw curves than a mouse which produces somewhat jerky and rigid looking curves. The cursor pointing devices proved to be useful for more geometric designs but I found them to be a little too much like a mouse for my liking and preferred using the pen. The flexibility and flowing movements allowed by using the tablet made returning to a mouse a big disappointment!

The only problem I found with the Kurta system is that the current *Pencraft* software does not allow for Overscan, which is an essential graphics mode for any video applications. When in Overscan mode the pen would not move past the normal viewing borders and a mouse was needed to fill in any areas that were overscanned (the mouse can be used when the tablet is not sending any input to the computer). This problem will hopefully be rectified in later versions of *Pencraft*.

I particularly like the idea of using the graphics tablet as an input system. The whole notion of an input system will become increasingly popular as it makes for friendlier user interfaces that save time and increase productivity. The Kurta range of tablets are well suited to meet the needs of anyone serious about working with computer graphics and Desktop Video.

Kurta Graphics Tablets and pointing devices are distributed by Minicom Pty. Ltd. 104-108 Mount Street, North Sydney. (02) 957-6800. □

Maxwell's 24 HOUR MAIL ORDER SOFTWARE GALORE

GUARANTEED SERVICE ★ SAME DAY DESPATCH*

SOFTWARE... FIRST WITH THE LATEST... NEW TITLES DAILY

1000's OF TITLES ★ AMIGA ★ IBM 5.25" AND 3.5" ★ C 64 ★ C 128

★ C64 TOP HITS ★

GHOSTBUSTERS II	34.95
MEAN STREETS	36.95
BATMAN THE MOVIE	36.95
IRON LORD	39.95
JORDAN VS BIRD	34.95
POOL OF RADIANCE	49.95
CURSE OF AZURE BONDS	49.95
HILLSFAR	54.95
STRIKER	36.95
CABAL	36.95
TURBO OUTRUN	36.95
F14 TOMCAT	44.95
PATTON VS ROMMEL	29.95
THE UNTOUCHABLES	36.95
PICTIONARY	54.95
DOUBLE DRAGON II	39.95
GHOLDS N GHOSTS	36.95
FIGHTER BOMBER	36.95
BEVERLY HILLS COP	39.95
CHASE HQ	39.95
WHERE IN THE WORLD IS CS?	59.95
WHERE IN EUROPE IS CS?	59.95
TOOBIN	30.95
TUSKER	36.95
F-18 HORNET	44.95
HARD DRIVEN	36.95
ROCK STAR ATE HAMSTER	29.95
AFTER THE WAR	39.95
NINJA WARRIORS	39.95
TEST DRIVE II - THE DUEL	36.95
INDIANA JONES LAST CHARGE	35.95
WALL STREET	35.95
KNIGHTS OF LEGEND	49.95
RED STORM RISING	39.95
BATTLE CHESS	39.95
POWER DRIFT	49.95
DRAGON WARS	39.95
MEAN STREETS	35.95
SUPER WONDER BOY	35.95
JACK NICKLAUS GOLF	36.95
MOON WALKER	36.95

★ PRICE MATCH! ★

Any regular advertised prices in this issue

★ AMIGA TOP HITS ★

AQUANAUT	59.95
CABAL	49.95
MR HELI	59.95
TOOBIN	49.95
7 GATES OF JAMBALA	49.95
DELUXE STRIP POKER	49.95
HELL RAIDER	49.95
HIGH STEEL	59.95
WEIRD DREAMS	49.95
ROCK N ROLL	49.95
INTERPHASE	59.95
CHAMBERS OF SHADON	59.95
OOZE	49.95
COLOSSUS CHESS	59.95
CONFLICT EUROPE	59.95
DARIUS	49.95
FULL METAL PLANET	59.95
WINGS OF DUEL	49.95
ULTIMATE DARTS	49.95
TWIN WORLD	59.95
TRIAD II	59.95
CASINO GAMBLING	59.95
DR PLUMMET'S USE OF FLUX	49.95
BRIDE OF THE ROBOT	49.95
WARP	49.95
WILD STREETS	59.95
PIPE DREAM	64.95
WEST PHASAR	69.95
NINJA WARRIORS	59.95
CASTLE WARRIORS	64.95
CHICAGO 90	52.95
LEISURE SUIT LARRY II	59.95
JETSON	59.95

AMIGA DATABASE

DATA RETRIEVE	129.00
MAIL SHOT	99.95
SUPERBASE PERSONAL	159.95
SUPERBASE PERSONAL II	199.95
SUPERBASE PROFESS V3	399.00

AMIGA WORD PROC.

BECKER TEXT	149.00
ELECTRA SPELL CHECKER	49.95
KINDWORDS V2.0	129.00
MEDIA LINE FONTS	49.95

PAGESETTER II	199.95
PAGESTREAM FONT 9-12 EA	59.95
PAGESTREAM FONT 1-5 EA	64.95
PAGESTREAM LASER FONTS A	59.95
PAGESTREAM LASER FONTS B	64.95
PAGESTREAM V1.6	299.00
PEN PAL	199.00
PROFESSIONAL PAGE 1.3	399.00
PRO-WRITE VER 2	229.00
PRO-WRITE VER 2.5	179.00
PUBLISHERS CHOICE	199.95
SCRIBBLE PLATINUM	119.00
SEX FONTS	49.95
TRANSCRIPT	99.00
TX-ED	129.95
WORD PERFECT	469.00

AMIGA SPREADSHEET

ANALYSER II	149.95
HALCALC	149.00
MAXPLAN 500	149.00
MAXPLAN PLUS V1.9	199.00
SUPERPLAN	199.00

AMIGA GAMES

4 X 4 OFF ROAD RACING	39.95
A.P.B.	49.95
ACTION FIGHTER	59.95
ADIDAS GOLDEN SHOE	59.95
ADIDAS AMIGA	59.95
AFRICAN RAIDERS	49.95
AFTER THE WAR	54.95
AR BALL	62.95
AMIGA CHAMPIONS	59.95
ARIPHELAGOS	49.95
ARMADA	49.95
ARMY MOVES	69.95
AROUND THE WORLD IN 80 DAYS	44.95
BALANCE OF POWER 1990	69.95
BARBARIAN II	59.95
BARDS TALE	49.95
BASKETBALL	69.95
BATMAN THE MOVIE	54.95
BATTLEHAWKS	59.95
BEACH VOLLEYBALL	59.95
BEVERLY HILLS COP	54.95
BEYOND THE ICE PALACE	52.95
BILLIARDS 3D	59.95
BLACK SHADOW	59.95
BLADE WARRIOR	59.95
BLOODWYCH	59.95
BLOODYMACH DATA DISK	72.00
BLUE ANGELS	59.95
BOMBER	59.95
BRIDGE PLAYER 2000	54.95
CADAVRE	59.95
CARRIER COMMAND	59.95
CHASE HQ	59.95
CHESSPLAYER 2150	59.95
CLASSIC INVADERS	44.95
COMMANDO	59.95
COSMIC PIRATE	59.95
CRAPS ACADEMY	69.95
CROSSBOW - LEGENDARY	54.95
CYBERNOID II	49.95
DAYS OF THE PARADISE	59.95
DINOSAUR DISCOVERY	49.95
DOGS OF WAR	44.95
DOUBLE DRAGON II	54.95
DRAGONS OF FLAME	49.95
DRAGON'S LAIR II	69.95
DRAKHEN	59.95
DUAL PACK LEADERBOARD	59.95
DUNGEON MASTER	49.95
DUNGEON MASTER ASSISTANT	49.95
DUNGEON MASTER EDITOR	74.95
DUNGEON QUEST	59.95
ENLIGHTENMENT	59.95
FIENDISH FREDDY	69.95
FIGHTING SOCCER	49.95
FLIGHT SIMULATOR II	89.95
FSII #11 LAKE HURON/DETROIT	49.95
FSII #12 PHOENIX/ST LOUIS/CI	49.95
FSII #13 CHICAGO/ST LOUIS/CI	49.95
FSII EAST COAST	39.95
FSII EUROPE	39.95
FSII HAWAIIAN OYSESEY	59.95
FSII JAPAN TOKYO/OSAKA	44.95
FSII WEST EUROPE SCENERY	52.95
G.NIUS	49.95
GHOSTBUSTERS II	59.95
GLOBAL COMMANDER	69.95
GRAND MONSTER SLAM	59.95
HARD & HEAVY	59.95
HARD DRIVEN	49.95
HARBALL	64.95
HAWKEYE	54.95
HILLSFAR	69.95

HONDA RVF	49.95
HORSE RACING	69.95
HUNT FOR RED OCTOBER	44.95
INCREDIBLE SPRING SPHERE	49.95
INDIANA JONES GRAPHIC	55.95
IRON LORD	59.95
IT CAME FROM THE DESERT	69.95
JACK NICKLAUS GOLF	59.95
JET	59.95
KEEF THE THIEF	85.95
KICK OFF	49.95
KING ARTHUR	59.95
KING OF CHICAGO	74.95
KINGDOMS OF ENGLAND	69.95
KING'S QUEST II	44.95
KNIGHT FORCE	59.95
KULT	59.95
LAZER SQUAD	59.95
LICENCE TO KILL	49.95
LORDS OF THE RISING SUN	69.95
MANHUNTER NEW YORK	54.95
MAYDAY SQUAD	74.95
MIGHTY MERO	49.95
MILLENIUM	49.95
MOONWALKER	59.95
MORTVILLE MANOR	69.95
MURDER IN VENICE	59.95
NORTH & SOUTH	59.95
PICTIONARY	49.95
PLATOON	69.95
POOL 3D	49.95
POPULOUS PROMISED LANDS	59.95
POWERDRUM	59.95
PRECIOUS METAL	59.95
PRO TENNIS TOUR	59.95
QIX	49.95
QUEST FOR TIME BIRD	69.95
QUESTION II	49.95
RAFFLES	52.95
RAINBOW WARRIOR	59.95
REACH FOR THE STARS	44.95
RED HEAT	49.95
RETURN TO GENESIS	59.95
RINGSIDE	49.95
ROMANCE OF 3 KINGDOMS	99.00
RUNNING MAN	59.95
SAFARI GUNS	49.95
SAVAGE	59.95
SCRABBLE C DELUXE	79.95
SHADOW OF THE BEAST	79.95
SHADOWGATE	74.95
SHADOWGATE HINT DISK	32.95
SHINOBI	49.95
SHOGUN	69.95
SHUFFLEPUCK CAFE	65.95
SILKWOOD	74.95
SIM CITY	69.95
SIM CITY TERRAIN EDITOR	34.95
SKWEEZE	49.95
SKYCHASE	54.95
SOLITAIRE ROYALE	44.95
SPACE ACE	89.95
SPACE DEFENCE INITIATIVE	59.95
SPACE PORT	79.95
SPACE QUEST I & II HINT DISK	34.95
SPACE QUEST III	34.95
SPACE QUEST III HINT DISK	34.95
SPACE ROGUE	59.95
SPITTING IMAGE	44.95
STELLARYX	49.95
STORY 50 FOL VOL 3	49.95
STRYK	54.95
TANK AT TACK	59.95
TERRANCE	39.95
TEENAGE QUEEN	54.95
TERRARIUM	59.95
TERRY'S BIG ADVENTURE	59.95
TEST DRIVE II	49.95
TEST DRIVE II MUSCLE CARS	32.95
TEST DRIVE II CALIFORNIA	39.95
THREE STOOGES	79.95
THRELLTIME PLATINUM II	59.95
TIME & MAGIC	69.95
TRIVIAL PURSUIT NEW BEGIN	49.95
TRIVIAL PURSUIT TWIN PACK	52.95
TURBO OUTRUN	52.95
TWO UP	49.95
ULTIMA IV	49.95
ULTIMATE GOLF	59.95
ULTIMATE HINT DISK II	34.95
UNTOUCHABLES	59.95
WHERE IN USA IS CS?	79.95
WHERE IN THE WORLD IS CS?	69.95
WHITE DEATH	89.00
WIDE WORLD OF SPORTS PK	49.95
WINDWALKER	60.00
WORLD CLASS LEADERBOARD	44.95
X MEN	60.00
XENON II	59.95

AMIGA EDUCATION

A.B. ZOO	29.95
ALGEBRA	79.95
ANIMAL KINGDOM	69.95
ARITHMETIC	79.95
AT THE ZOO	69.95
CALCULUS	79.95
DEMONSAURUS	59.95
DINOSAURS ARE FOREVER	69.95
DISCOVERY MATHS/SPELL	64.95
FUN SCHOOL 2 AGES 6-8	49.95
FUN SCHOOL 2 OVER 8	49.95
FUN SCHOOL 2 UNDER 6	49.95
INTELLITYPE	44.95
KID TALK	44.95
KINDERAMA	52.95
LITTLE RED HEN	39.95
MASTERTYPE	54.95
MATCH-IT	49.95
MIXED UP MOTHER GOOSE	52.95
READ & RHYME	69.95
RHYMING NOTEBOOK	49.95
SESAME ST NUMBERS	69.95
SESAME ST LETTERS	69.95
SESAME ST OPPOSITES	69.95
SPELLBOUND	59.95
TALKING ANIMATOR	99.95

AMIGA BUSINESS

BEST	495.00
DESKTOP BUDGET	99.00
CRITICS CHOICE	199.00
SESAME ST NUMBERS	69.95
ELECTRONIC CASH BOOK	249.00
ELECTRONIC DEBTORS	119.00
HOME ACCOUNTS	125.00
HOME FRONT	134.95
IPHASAR V3.0 BUDGET	595.00
SYD EX STOCK CONTROL	299.00
WORKS: PLATINUM EDITION	299.00

AMIGA UTILITIES

AMAX MAC EMULATOR	599.00
AMIGADOS 1.3 ENHANCER PK	59.95
AMIGADOS TOOLBOX	89.95
AREXX COMPILER	89.95
ASSEM-PRO	189.00
B.A.D.	74.95
CROSS DOB	32.95
DEVPAC	169.00
DISK 2 64/128-AMIGA TXFER	74.95
DISK MAGIC	44.95
DISK MASTER 1.3	44.95
DOS LAB	99.95
DOS-TO-DOS	99.95
GRABBIT V2	59.00
HI-SOFT BACS	54.95
LATTICE C VER 5.04	439.00
LOGO	180.00
MAC 2 DOS	149.95
QUARTERBACK 1.4	99.00
STUFF-IT MENU MAKER	64.95
SUPERBACK	99.95
ULTRACARD	74.95
VIRUS KILLER (COMMAT)	34.95
VIRUS PROTECTION TOOLBOX	79.95

AMIGA GRAPHICS/MUSIC

ANIMATE 3D	229.00
ANIMATION STAND	79.95
AUDIOMASTER II	179.00
AWARD MAKER ED DISK	59.95
AWARD MAKER PLUS	74.95
AWARD MAKER SPORTS	74.95
CAN DO	219.00
COMIC SETTER	129.00
DEL MUSIC CONSTRUCT SET	179.95
DELUXE PAINT III	269.00
DELUXE PRINT II	184.95
DELUXE VIDEO 3	184.95
DESIGN 3D	119.00
DIGIDROID FOR DIGIVIEW	179.95
DIGIPART III	149.95
DIGIVIEW GOLD IV	349.00
DELUXE PAINT III HELP	79.00
DIRECTOR TOOLKIT	59.95
DIRECTOR THE	129.95
DR T'S MIDI RECORD STUDIO	99.95
DR T'S CASIO KEYB MODULE	399.95
DR T'S COPYIST PROFESS	399.00
DRAW 2000 CAD	299.00
CLIPART GALLERY PACK	199.00
ELAN PERFORMER	89.95
FANTASY FONTS	45.95
FORMATION	119.95
FUTURE DESIGN 3D	49.95

FUTURE SOUND DIGITISER

HOME BUILDERS CAD	399.00
INTERCHANGE	279.00
KARA FONTS II	89.95
MOVIE SETTER	104.95
MUSIC X	139.95
PAGE RENDER	399.00
PAGE RENDER	199.00
PERFECT SOUND DIGIT A1000	199.00
PHOTON VIDEO ANIMATION	179.95
PIXEL SCRIPT (PSICOR DRV)	109.00
PRINT MASTER ART GALL 2	89.95
PRO-VIDEO PLUS	499.00
PROFESSIONAL DRAW	375.00
PURE COLOR (COLOR DRV)	45.95
SCULPT 3D HUMAN DESIGN	59.95
SCULPT 3D INTERIOR DESIGN	59.95
SCULPT 3D MICROBOT DES	59.95
SCULPT-ANIMATE 4D	799.00
SCULPT-ANIMATE 3D XL IMPR	269.00
SONIX	159.00
TV TEXT PROFESSIONAL	269.00
TOP FORM (FORM DESIGNER)	119.95
TURBO SILVER	249.00
VIDEO EFFECTS 3D	300.00
VIDEO STUDIO	109.00
VIDEO TITLER NEW	199.95
VIVAL	299.00
VUMA FONTS IV	54.95

AMIGA SPECIAL INTEREST

AMIGA GET PACK	100.00
CELEBRITY COOKBOOK	44.95
DISTANT SUNS	89.95
FAMILY TREE	89.95
GP TERM V4.0	99.95
PROJECT MASTER	295.00
SECURITIES ANALYST	129.95

★ HARDWARE ★

A2000 V6.2	1995.00
A2000 HD	3395.00
A500 GIFT PACK	895.00
A500 from	695.00
A1000 from	995.00
A500 STARTER KIT	895.00
CABRO - SOFTWARE	249.00
RAM CARDS	CALL
HARD DISK CONTROLLERS	CALL
A500	995.00
MONITORS	CALL
PRINTERS	CALL
64 HOTSHOT PRINTER IFACE	119.00
64 HOTSHOT PLUS PRINTER	149.00
64 RS232 IFACE	99.00
64 SERIAL IFACE	144.00
GENLOCKS	CALL
MODEMS	CALL

★ BOOKS & MAGS ★

SIERRA CLUE BOOKS	CALL
CAD 128 BOOK	39.95
AMIGADOS OREF-G ABAC	19.95
FIRST BOOK/AMIGA	39.95
KIDS/AMIGACOMPUTE	33.95
BARDS TL 1/2/3 CLUE BOOK	24.95
AMIGA MACH LANG PROG	39.95
AMIGA DRIVE INOUT	54.95
AMIGA BASIC INOUT	49.95
AMIGA DOS INOUT	39.95
SECOND BOOK/AMIGA	39.95
AMIGA FOR BEGINNERS	34.95
AMIGA C FOR BEGINNERS	39.95
AMIGA SYSTEM PROG GUIDE	62.95
AMIGA MACHINE LANG	39.95
DESKTOP VIDEO	39.95
HINT BOOKS	CALL
ACE, AMIGA WORLD, AMIGA PLUS,	
AMAZING COMPUTING, AC FALL	
GUIDE, AMIGA USER, AMIGA FORMAT,	
AMIGA TRANSACTOR, THE ONE, 22P	
64, GAMES MACHINE, COMPUTER &	
VIDEO GAMES, AUST COMMODORE	
REVIEW, AMIGA COMPUTING, PC	
PLUS, INFO, AMIGA ACTION, AMIGA	
RESOURCE, AMIGO TIMES, C.U.	

★ NEWS ★

WANT A PRICE LIST? JUST CALL	
NEW LOW PRICES ON A2000	
BRIDGEBOARDS	
PRICES CORRECT AT TIME	
OF PRINTING ONLY	

ORDERS ONLY

008-334-634

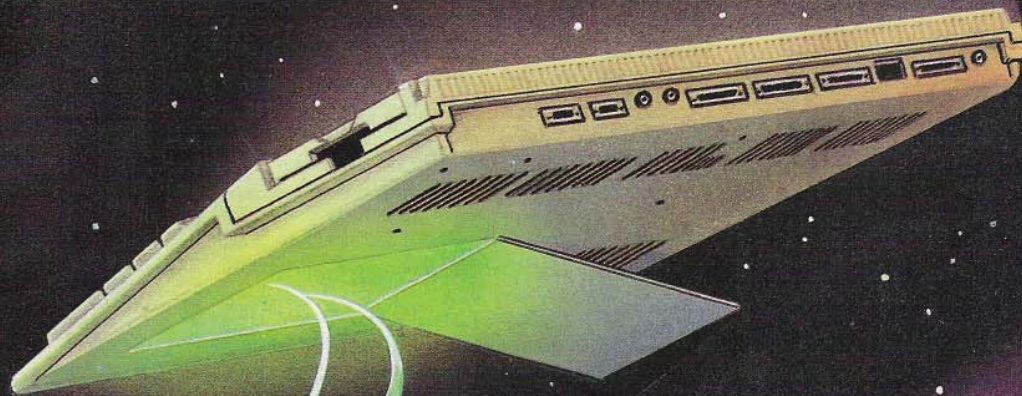
ALL QUERIES

512KB RAM EX

AMIGA 500 MEMORY EXPANDER

- **EXPANDS** the Amiga 500 memory to over 1 megabyte allowing the user to play some of the latest games with enhanced sound and graphics.
- **SIMPLE** to install, just plug it in.
- **REALTIME** clock/calendar with **NICAD** battery backup.
- **NEW ENABLE SWITCH** — this switch allows you to turn off the extra ram at your leisure. **NOTE:** Some games require the extra ram to be turned off otherwise they won't run.
- **COMPATIBLE** — fully compatible with the AMIGA 500.
- **VERY LOW** power consumption.
- **12 MONTHS GUARANTEE.**

This product has been built in Australia by Home Entertainment Suppliers Pty. Ltd., using the latest **state of the art** technology. Only the best local and overseas components have been used to give you a highly efficient and compact component.



Proudly made in AUSTRALIA by

**HOME ENTERTAINMENT
SUPPLIERS**



PTY LTD

UNIT 1/128 BONDS RD. RIVERWOOD, N.S.W. 2210

PANSION CARD

For Commodore Amiga 500

Clock/Calendar and Enable Switch

AVAILABLE AT:

NSW

MICROCOMPUTER SPOT

Sydney Ph: (02) 221 1910
Liverpool Ph: (02) 601 7700
Hurstville Ph: (02) 570 7333
Burwood Ph: (02) 744 8809
Parramatta Ph: (02) 891 1170
Penrith Ph: (047) 32 3377
Hornsby Ph: (02) 477 6886
Chatswood Ph: (02) 419 2333
Charlestown Ph: (049) 42 1522

A.C. COMPUTER-FIX

Auburn Ph: (02) 646 1666
Bankstown Ph: (02) 790 1499

STEVES COMMUNICATIONS

Fyshwick Ph: (062) 80 6877

SHOP 4

Wollongong Ph: (042) 26 2688

THE GAMESMEN

Penshurst Ph: (02) 580 9888

VIC

MAXWELL'S

Abbotsford Ph: (03) 419 6811

MEI SOFTWARE

Dandenong Ph: (03) 794 9813
Ferntree Gully Ph: (03) 758 9494

GEE LONG COMPUTER CENTRE

Geelong Ph: (052 224 322)

QLD

SCARBOROUGH FAIR

Southport Ph: (075) 32 5133

UNITED COMPUTERS

Brisbane Ph: (07) 393 0300

COMPUTERVIEW

Bundamba Ph: (07) 282 6233

ACTIVE COMPUTERS

Townsville Ph: (077) 72 3793

WA

COMPUTER CORNER

Maddington Ph: (09) 459 0650

STANBRIDGE GAMES

Balcatta Ph: (09) 345 1922

REGIONAL COMPUTERS

North Perth Ph: (09) 328 9062

SA

COMPUTER MAN

Adelaide Ph: (08) 232 1077

Toorak Gdns Ph: (08) 332 4300

Modbury Ph: (08) 263 8077

Smithfield Ph: (08) 254 2264

Brighton Ph: (08) 377 0808

TAS

ANGUS & ROBERTSON

BOOKSHOP

Hobart Ph: (002) 34 4288

ROBBIES TELETRICIAN

Wivenhoe Ph: (004) 31 2560

BIRCHALLS

Launceston Ph: (003) 31 3011



Dot Matrix Update

STAR LC24-10/STAR FR-10/OKI 182 Turbo

by Eric Holroyd

In just a few short years there's been some pretty fantastic growth in both printer and computer technology. Printers in particular have become much more sophisticated and the list of capabilities grows with each new model. Here's what I learned when I had the chance recently to evaluate two new printers from Star Micronics and one from OKI. These printers all connect to the Amiga using a Centronics cable and to the C64/128 using a parallel interface such as the one made by Xetec.

Star LC24-10

● I KICKED OFF with this brand new 24-pin printer hooked up to the Amiga 1000 and found that it'll let me do almost anything directly from its soft touch front panel. With this system of button combinations I can set the printer in whatever mode I want and there's no need for complicated embedded commands. The style of printing is just one thing that's selected here and can be in any one of four Letter Quality fonts or in fast draft mode.

Five different print pitches of 10, 12, 15, 17, or 20 c.p.i. (characters per inch) may also be set directly from the panel.



Font styles on the LC24-10 include Courier, Prestige, Orator and Script (my wife loved this one for "chatty" letters) and there's an optional plug-in card with three additional fonts (Letter Gothic, OCR-B, and Blippo).

Proportional printing is included too and I find it a great benefit to be able to give my letters and papers that "professional finish" by using this feature. It looks so much better than that evenly spaced printing you get from printers without the Proportional feature and which is obviously computer generated and somehow looks more impersonal.

This unit prints quite quickly as the following figures show: In Letter Quality pica pitch (10 c.p.i.) it prints 50 characters per second and in L.Q. elite pitch (12 c.p.i.) it does 60 characters per second. The equivalent figures in Draft mode are 150 c.p.s. and 180 c.p.s. respectively.

There's a "Quiet Mode" which I found great for doing my midnight printouts as it doesn't disturb the household. What it does is make two passes for each line and the print head strikes lighter, thereby making less noise. Obviously it cuts down the printing speed, but you can't have everything, can you?

Continuous paper feed is by the standard Star "push tractor" and there's a single sheet chute supplied with the printer too. The really great feature that most newer Star printers seem

to have now is Paper Parking which lets you switch from fanfold paper to single sheets without having to remove the fanfold from the sprockets.

Front panel controls run the tractor backwards to "park" the edge of the paper in the mouth of the feed ready to be used again later and you can then use the paper chute to feed a single sheet of that special paper in for an important letter.

I had absolutely no trouble in hooking it up to the Amiga with the printer cable and once I'd set the printer to Epson Q in Preferences everything worked like a charm. It's a very user-friendly unit which gave me good results with no trouble. That's just what I look for in any kind of equipment such as cameras, stereo gear, video etc, and I'm sure that the vast majority are non-technical like me so have similar requirements.



Font and RAM cards

On the other hand, the manual is really well laid out for programmers and other high-tech users and gives all the control codes for everything the printer does. For instance: the line spacing can be defined as fine as 1/360 of an inch; printing can be double or even quadruple the normal size; you can perform a "backspace" to overstrike characters; set vertical and horizontal tab positions; have full control over all margins; and a whole lot more. Commands are shown in ASCII, Decimal and Hexadecimal and on re-reading all of this in the manual I felt that this was the easiest printer handbook I'd yet come across.

I liked the Front Panel control system on this printer a lot. A "decal" with all relevant switch combinations came with it and I stuck it next to the controls so that I could see at a glance what switch combi-

nation did what. There's also a handy reference card which explains things in a bit more detail and I referred to both things for a little while until I got used to the unit. As well as the font type, style and size selections mentioned above you can get the printer to stay in Panel Pitch, or Panel Style, or both together if you wish.

This is very handy if you want to use the printer's own fonts and the software you're using defaults to its own settings. By setting the printer in Panel Style and Pitch you can over-ride the software's printer commands and select what you want direct from the panel. Brilliant. As is the forward or reverse Micro Feed which lets you put the paper exactly where you want it just by pressing a combination of panel switches.

Just recently, I bought the January '90 issue of the UK magazine *Commodore Computing International* and was very interested in a "Dear Technical Editor" letter from one of their readers. This chap - an Amiga 500 owner - had bought a Star LC24-10 and wrote that "The fonts available through this printer are better than the fonts available through my Kind-

THIS IS A TEST OF THE STAR LC24-10 PRINTER
This is using the COURIER font normally

THIS IS A TEST OF THE STAR LC24-10 PRINTER
This is using the PRESTIGE font normally

Star LC24-10 output

words word processor. Can you please advise me how to print a letter using the printer's fonts rather than the software's fonts?"

Their "Technical Editor" has replied that "You need a new driver for the printer!" Also he's advised the reader to "Contact Star Micronics Technical Help" and given him a phone number to ring. I sincerely hope that the Star UK guys let the "Technical Editor" know that it's very simple indeed to lock the printer in Panel Style and Pitch as I've just described and let him know to catch up on his Technical reading.

Locking in Panel Style has been available for quite a long time and he should have known that. I'm sure the Star people will have correctly advised the reader on how to do what he wants, but it was all

there in his printer manual anyway. This letter is on page 87 of the said magazine, which incidentally is one of my own favourites.

Now, if you like to use packs of single sheet paper as I do you'll be pleased to know that you can get an Automatic Sheet Feeder for this printer. It's simple to use, just stack the paper in the chute and press the print button. I like using this as I can use just about any grade of paper with it, including packs of photocopier paper, and I have a selection of different colours which I like to use for little brochures etc. It's nice to have the choice to use either tractor feed or Automatic Cut Sheet and if your budget will run to it I can heartily recommend it.

Programmers and users with a specific need for specialised fonts and down-

(continued on page 45)

BREAKING THE PRICE BARRIER

AMIGA 1 MEG memory boards
dramatically reduced

\$ 299

Fully populated

with 1MB of AUTOCONFIGured
FAST RAM for your 500 or 1000
computer.

Two boards in One!

FREE Bonus offer, XEL hardDrive
interface included, save \$200 off
the price of a complete hardDrive.

HardDrive Options

* 30 Meg	\$899
* 40 Meg	\$1099
* 60 Meg	\$1299
* 105 Meg	\$1799
* Hard drive Kits	\$195

XEL

Pty Ltd G.P.O. BOX 121 Adelaide. 5001
Phone 08-2317396 or 018-824648 anytime.



COMMODORE ANNOUNCES THE BEST VALUE BUSINESS COMPUTER EVER!

Commodore, the world's largest supplier of computers, introduces the new PC30-III 80286 PC(AT).

Designed to keep small business in business. Because the new German made Commodore has full business capabilities, without a business price.

The new German made Commodore PC30-III caters for business applications such as • Spread Sheets • Accounting Software • Data Base • Word Processing.

The Commodore PC30-III is of course fully MS DOS compatible. It's also the ideal

system for existing PCXT users who need better performance from their 8088 system without outlaying a small fortune to achieve 80286 features.

The new Commodore PC30-III gives you everything you'd expect from an international computer company like Commodore. It is not a Taiwanese clone.



Commodore

For further information phone your nearest Commodore dealer.
Computer Spot Shop 3, 99 Elizabeth Street, Sydney, NSW. Ph: (02) 221 1910. Computer Spot Shop 21A, Greenway Arcade, 222 Church Street, Parramatta, NSW. Ph: (02) 891 1170. Computer Spot 180 Pacific Highway, Charlestown, Newcastle, NSW. Ph: (049) 421 522. Steve's Communication Centre 68 Wollongong Street, Fyshwick, ACT. Ph: (062) 80 6877. Maxwell Office Equipment 162 Nicholson Street, Abbotsford, VIC. Ph: (03) 419 6811. United Computers 991 Stanley Street East, East Brisbane, QLD. Ph: (07) 393 0300. Computer View 21 Brisbane Road, Bundamba, QLD. Ph: (07) 282 6233. Scarborough Fair Computer Centre Scarborough Fair Shopping World, Southport, QLD. Ph: (075) 32 5133. Bruining Headlam Computers 241 Pulteney Street, Adelaide, SA. Ph: (08) 232 0991. Bruining Headlam Computers 116 Cambridge Street, West Leederville, WA. Ph: (09) 381 2988.

loaded characters would be interested to know that there's a blank font card available which stores special character sets etc so that they're available just by plugging in the card. There's also a 32k buffer card which is very useful when printing large documents as it holds the data in its own memory so as to give you back control of your computer whilst the printer is doing its stuff.

Another useful option is the battery powered RAM card to which you can download data and then remove it from the printer. This is a neat way of carrying data from one computer setup to another, say from the office to home, or home from the user group. The battery has a four year life and the RAM card slips easily into a shirt pocket.

All in all I found this to be an excellent printer with many nice features. It's speedy, versatile and user-friendly and IBM users will be happy to know that the LC24-10 is fully IBM compatible.

● **Best feature:** Solid high-speed NLQ font printing.

● **Worst feature:** Wobbly plastic cover over the paper feed tractor.

● **RRP** (including 20% Sales Tax):

Star LC24-10 \$1018.00

Font card \$240.00

Blank font card \$336.00

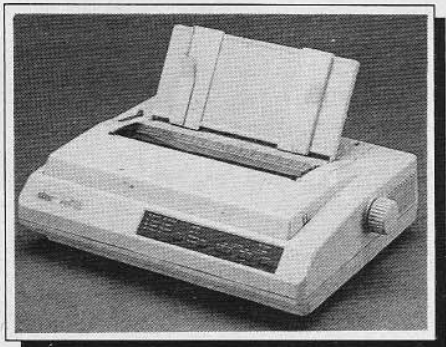
RAM card \$336.00

32k Buffer card \$276.00

Automatic Sheet feeder \$288.00

Star FR-10

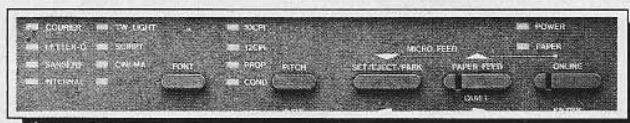
● **THIS ONE** IS billed as a "High Speed Multi Font printer with IBM and Epson Compatibility". It can be used either as a normal black and white printer, or converts quickly to a colour printer with the supplied colour pack. It's a very high quality unit, obviously designed with heavy duty use in mind as everything about it seems to be that bit sturdier. It also has many features not found in the printers lower down in the price



range.

I found the FR-10 extremely easy to set up and use and once I'd set the printer to "Epson" on my Amiga workbench disk I was off and running. I did some test printouts such as directory and batch file listings to see how it all worked and then tried out the various fonts. Six NLQ fonts (and Draft Mode) are selectable from the front panel: Courier, Tw-light, Letter-gothic, Script, Sans Serif, and Cinema with Orator and Ocf fonts available via ESC codes as explained in the manual. The fonts are very nice and the output is high quality.

Bulkier than the other two units under review, the FR-10 nevertheless just fitted onto my printer stand although it



Control panel

was about twice the size of the OKI 182 Turbo. It impressed me with its ergonomic design and even though there's a Quiet Mode switch to cut down printer noise it had sound-proofing material under the front cover anyway.

The front cover has a transparent section through which you can see the print head and the printed paper comes up through a slot here. There's a very clever "Short Tearoff" feature which feeds up the fanfold paper at the end of a document to let you tear it off and then runs the paper backwards again to line up the top of the sheet with the print head so that you don't waste a sheet. I can't remember how many times I've wished for just such a feature as I don't like wasting an extra sheet of paper every time I write something. In fact I started to collect all those odd sheets on a clipboard to use for phone message paper and it's surprising how many wasted sheets accumulate in a week.

As with the LC24-10 you may also use single sheet paper via the chute supplied and paper parking is a feature here also. Again, there's an Automatic Sheet Feeder available as an option and I can see that it would be a boon to a busy user. My own printer usage is quite high and I'd use all three types of paper feed in a week's work. Fanfold for draft work, automatically fed sheets for letters, and the single sheet chute with the really high grade paper I keep for very special letters. For printing mailing labels it's quite easy to adjust tractor sprockets for narrow or wide label stock.

Paper-handling was superb with this

model and although I'd got used to having a forward and reverse Micro Feed on my older Star NX-10 I was particularly pleased with the way the FR-10 handles this function. Holding down the On Line button whilst pressing the Paper Feed button feeds the paper forwards in 1/216th inch increments whilst the On Line & Set/Eject/Park buttons feed it backwards at the same rate. This is particularly handy for instance, when setting up to print mailing labels and you need to be "spot on" with the first line or you end up printing in the space between the labels.

Print buffering has 32 kilobytes of memory, which means it will hold quite a lot of text and carry on printing for you automatically whilst you get on with

some more work on the computer. This again would be a boon to the busy user and I was surprised on several occasions to regain control of the computer a very long time before the document printing was finished.

There's a function on the FR-10 that I'd not come across before, called Memory Switch Mode. What this basically means is that you can program the printer's own memory to default to a certain range of settings every time you switch it on. For instance, if you use it mainly for printing letters and want it to power up automatically in NLQ and Proportional you may specify that in Memory Switch Mode. Other MSM options include specifying: a particular font as the default; Automatic Sheet Feeder in use; style of printed zeros (slash zero or not); short Tear Off on or off; condensed or Italic print; and several other options.

I'd talked about wasting paper earlier, and whilst I'm not really that much of a Miser Meany I've often wished that I could reset the Automatic Sheet Feeder that I use with the office NX-10. It defaults to 58 lines and so leaves margins at the top and bottom of 4 lines each when using 66 line paper. With 70 line paper the margins are 6 lines each.

Just occasionally I've wished I could



Graphic output

**This is a test of the Star FR-10 printer.
Current font is 10 cpi CINEMA in Normal Mode**

Text output

have them smaller so as to be able to get a document all on one sheet. With the Memory Switch Mode on this printer I can finally do just that, and even have the printer default to anything from 1 to 6 lines as top and bottom margins. Similarly, defaults for Page Length and Lines per Inch can also be set from a wide range of choices.

Selecting Memory Switch Mode is done by holding down three Front Panel switches together whilst switching the power on. The printer then prints out a "family tree" of questions and answers which you then select and enter into the printer's memory with keystroke sequences. It's harder to explain than it is to do and the manual steps you through it painlessly anyway. If you foul up and don't like the defaults you've set, the original factory settings are listed in the manual and you can return to them then start over.

DIP switches on both the FR-10 and the LC24-10 are easily accessible under a lift up flap under the front printer cover. There are no screws to take out, and all you need is a toothpick (or similar) to change the setting of a DIP switch. These control such things as the selection of Standard, IBM, or International character sets and are fully explained in the manual.

A handy chapter in the manual covers "Troubleshooting and Maintenance". There are six pages of what to look for under three headings: Power Supply; Printing; Paper Feeding. For instance, under "Printing" it says that if fonts or characters aren't being printed via your applications software you should recheck that you did the installation settings properly and do another test. Another one refers to "dots missing at random in the print-out". The possible problem is a slack ribbon which can be re-tensioned by lifting it out and winding it tight again. These things are pretty elementary to experienced users but novices could quite easily incur expensive service bills if they didn't have this section to refer to.

I've mentioned this (and the LC24-10's) manual several times and I must say that they're both good examples of what an instruction book should be. For a start, spiral binding has been used to ensure that the book lies flat on the desk. I always feel that this is a must as you need both hands to type and it's a nuisance

with some manuals when you have to use one hand to hold the page open. Next, the manual starts at the very beginning, ie unpacking the printer and plugging it in.

The various stages of setting up and actually getting a printout follow this and then there's the heavy technical stuff in great detail. A good indexing system meant that I was able to find relevant points quickly so I didn't have to tear out too much more of my rapidly thinning hair to nut something out.

The "heavy technical stuff" includes all those programmer's printer codes for Font Style, Pitch Control, Line Spacing, Margins, Tabs, Graphics, and those special Double & Quad size characters available with both these Star models. Five different test and diagnostic modes are accessed from the front panel, three of them giving printouts to show that all's working OK, the fourth prints a list of Memory Switch settings, and the fifth is a Hexadecimal Dump Mode with all data received by the printer being printed as hex code. This is useful for programmers to know how the printer reacts to certain commands, and is used for installing and debugging printer software.

There are no prizes for guessing correctly that this printer is my favourite of the three under review. My wife says that I have good, but expensive, taste and she's proved right yet again. This is the most expensive of the three printers, but for what I require of a printer in my various activities it's also the best.

● **Best feature:** Its all-round user friendliness.

● **Worst feature:** Original Japanese ribbon didn't print as dark as a re-inked one.

● **RRP (including 20% Sales Tax):**

Star FR-10 \$1318.00

Automatic Sheet feeder \$288.00

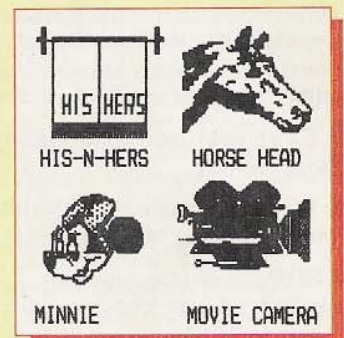
Pull Tractor \$96.00

OKI Microline 182 Turbo

● **THIS WAS THE** first time I'd ever used an OKI printer and I was quite impressed with the 182 Turbo. It had the smallest "footprint" of the three printers under review as well as a nice slimline

styling. It seemed to me to be aimed squarely at the home computer user wanting a fairly basic printer that's easy to use.

I decided to hook it up to the office C-128 and used the Xetec Super Graphics Senior interface to do the necessary data translation. After the initial "fiddling about" common to all new printer setups I was soon printing various samples, some of which are reproduced here to show the print quality. The OKI printer could just have easily been connected to the Amiga for these tests, in fact the manual details all the necessary info on making a parallel cable to do that, but I chose to use it with C-64 and C-128 modes so as to try out different word processors and graphics printing packages.



Graphic output

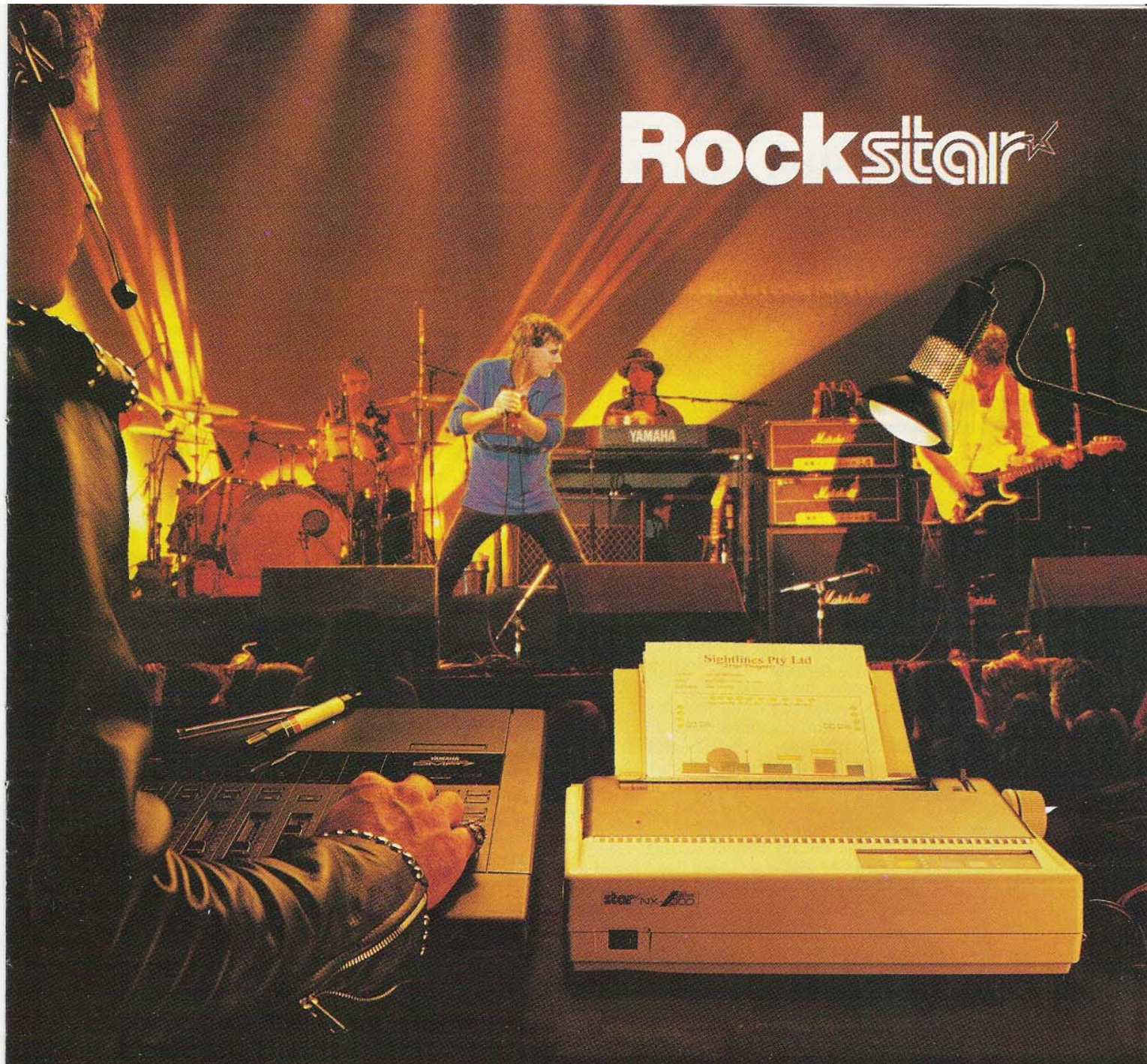
Both IBM and Microline emulation are catered for - depending which your software happens to support best. The DIP switches need to be set differently for these two modes, and once again it's all detailed clearly enough.

The OKI manual was well laid out, like the others it started off with the very basics of unpacking and setting up before progressing to technicalities and programming. Full marks for all that, but it lacked spiral binding and I kept losing my place due to pages closing. It has sections on BASIC programming and ESCape sequences too, then runs through how to work with four popular word processing packages: *Volkswriter De Luxe*, *Bank Street Writer*, *Apple Works*, and *Word-Star*.

I tried the 182 Turbo out with both *et System 4* and *Fontmaster* on the C-128 and found that the best printer driver to use with the *Fleet System 4* was Pan-amic, whilst with *Fontmaster 128* the Rite-an C+ driver turned out to be the one to use. (Both word processors let you define your own custom printer driver if necessary, and I'd have gone on to do that if I couldn't have used one of the long list of drivers supplied with both of

(continued on page 48)

Rockstar



These days, rock musicians are playing a new type of keyboard.

Computers are being used for everything from song composition to keeping track of the finances.

Star printers, such as this NX1000 CL, deliver the performance the music industry demands, whether in the studio or out on the road. It's easy to operate, has a choice of typefaces, prints in brilliant colour and is widely compatible with most computer systems and software.

Star are the world's largest specialist computer printer company, and can supply the model best

suited to your needs from their large range of dot-matrix and laser printers. Not surprisingly, we're really rocking the opposition.

For the complete Star story, including details of all our models, simply call your state office.

Sydney 748 4300,

Melbourne 544 6676,

Brisbane 875 1551,

Perth 344 2488,

Auckland 570 1450.

star
micronics
computer
printers

KAZOO STAR992

```
* TESTING UNDERLINING
* TESTING SUPER AND SUBSCRIPTS H=
* TESTING BOLDFACE PRINTING
THIS IS THE SAME TEST
* WITH UTILITY SELECTED (DRAFT MOD
* TESTING UNDERLINING
* TESTING SUPER AND SUBSCRIPTS H=
* TESTING BOLDFACE PRINTING
```

Text output

the programs.)

In keeping with the overall compact design of the printer is the ribbon cartridge's small size. It's about as big as a cigarette pack and half as deep, and there's a little "printhead gap" adjustment lever on the side of the ribbon's housing which you set according to the number of thicknesses of paper being printed so as to get the best from the ribbon. It will print through those multipart business forms of up to four thicknesses.

The specifications say that ribbon life is three million characters and the original ribbon performed very well. It's showing no signs of wearing out yet but I haven't kept a check on the exact amount of work it's done. I could have been really scientific and printed a 1,000 word document 3,000 times but I couldn't afford the time or the paper. Even though that may sound a little flippant, that's just the amount of work the ribbon is said to do which is what I was trying to illustrate.

Tractor feed paper may be fed from the either the rear or the bottom of the printer and there's a commercially available printer stand with a suitable slot for bottom feeding. I don't have one so I used the rear feed and it was here that I found a snag. I had occasion to change DIP switch settings for one of the tests I was doing and didn't much like the location of these switches. There's a plastic cover on the back of the printer which is held in place by a screw.

I had to get in with a screwdriver to get the cover off and with fanfold paper feeding in from the rear I soon found that the cover is hidden by the paper. After wrestling with the screwdriver by touch for a while I ended up taking the paper out altogether so as to get at the DIP switches.

Most print and pitch operations are set from the Front Panel and there are buttons for Line or Form Feed, Top Of Form setting, plus Pitch and Mode. Three pitches are selectable: 10, 12, & 17 whilst the Mode button governs Utility (Draft Mode), NLQ, and HSD. This last one is High Speed Draft and is very quick indeed. HSD can be used in all three pitches and also allows underlining but no other special print features. The NLQ is a nice crisp font and allows both 10 and 12 CPI but not 17.

Utility printing lets you do a draft including such print features as italic, emphasising, or underlining. All these things are, of course, available as commands or settings in commercial software (such as the two WPs I mentioned above) but the well laid out manual lists all the necessary commands in ASCII, Decimal, and Hexadecimal if you want to write your own printer programs. These are useful for computer users wishing to "embed" printer commands in, say, word processor documents. The manual also shows Character Charts for both ASCII and IBM Character Sets I & II, plus BLock Graphic and International Characters. Commands to set Tabs, Margins, Paper

Length, Skip over Perforation, Spacing, Line Feeds etc are clearly set out too.

As a test of the OKI's graphic capabilities I used a C-64 program which reads a *Print Shop* data disk then prints the graphics in neat rows for easy reference. Check out the results for yourself here. The other test was via *Fontmaster* and came out very well too, the output from that program being in a sort of graphic font. Again, here's the test printout so that you can see the results.

If you're into programming you might like to design your own logo using "Bit Image Graphics" by following the instructions in the manual. The same procedure is laid down in the manuals for the other two printers and I really must get around to doing it for myself one of these days. I correspond with a guy in New York named Sol who signs his name at the end of a letter with just such a graphic which comes out in a very nice little script style signature.

After having several sessions with the OKI 182 Turbo I felt that it's best summed up as a nice basic printer that does two types of draft printing and one type of Near Letter Quality. It performs well enough and is reasonably quiet. If I were a computer hobbyist shopping around for my first printer I'd certainly put it on my short list.

● **Best feature:** Compact size and styling.

● **Worst feature:** DIP switch positioning.

● **RRP** (including 20% Sales Tax):

OKI Microline 182 Turbo \$598.80

Review unit supplied by IPL Datron (02) 698-8211

Conclusions

● After working with all of these printers I was in something of a quandary on how best to advise readers of my findings. I realised eventually that we all have differing needs as to the various equipment that we use and this is very evident in printer requirements.

A working journalist needs a good fast workhorse that's reliable and versatile for instance, whilst a home computer user who only writes the occasional letter, types recipes for his wife, and mailing labels for the Christmas card list obviously doesn't need something quite as exotic.

Nevertheless, it's always advisable to get the best that you can afford as it pays off in the long run. Imagine the computer user I've just outlined having a couple of teenage students growing up who'll eventually want to use the computer to do school and college assignments on and the printer's workload suddenly becomes a lot heavier.

I hope that my ramblings about these three units help to give you some ideas about what to look for in your next printer. I know which one suits my requirements and I'm going to be dropping very heavy hints about the FR-10 and "less than 300 shopping days to Christmas". □

Specifications of the three units:

	LC24-10	FR-10	OKI 182 Turbo
NLQ Speed	50cps (10cpi) 60cps (12cpi)	63cps (10cpi) 76cps (12cpi)	40cps
Draft Speed	150cps (10cpi) 180cps (12cpi)	250cps (10cpi) 300cps (12cpi)	155cps * 186cps (10 & 17cpi)** 232cps (12cpi)**
No of Pins	24	9	9
Line Feed Spacing	1/6", 1/8" n/180", n/360"	1/6", 1/8", 7/72" n/72", n/216"	1/6", 1/8", n/144"
Data Buffer	7KB	32KB	---

OKI 182 Turbo Note: * = Utility** = High Speed Draft

the expert

CARTRIDGE

FOR A PROFESSIONAL BACK-UP
ON COMMODORE 64/128 (64 MODE)

NOW
WITH
BONUS
V3.2 UTILITY DISK
COUPON

BACK-UP — Disk to disk. Tape to disk.
Disk to tape. Tape to tape

MULTILOAD — Yes, it makes back-ups
of multiloads

FREEZES — Freezes and saves
programs to disk or tape

ONE FILE — Programs are saved
in one file

COMPACTS — Programs are
compacted to reduce disk space used

SAVES MORE — You can save 3 or
more programs per disk

VERY FAST — Reloads most programs
in less than 6 seconds

NOT NEEDED — The cartridge is not
needed for loading back

UPGRADABLE — Cartridges uses
RAM and disk based software for instant
low cost upgrading

MONITOR — Use the machine code
monitor to cheat, gain extra lives or restart
the program, etc.

JOYSTICKS — It has a joystick auto-
fire mode and joystick port swap feature.

WARRANTY — 12 months

WARNING: It is illegal to use the EXPERT for
the reproduction of COPYRIGHT material.

PROUDLY MADE IN AUSTRALIA
AND DISTRIBUTED BY —

**HOME ENTERTAINMENT
SUPPLIERS**



PTY LTD

UNIT 1/128 BONDS RD, RIVERWOOD N.S.W. 2210

PH: (02) 533 3679



Assembly Tutorial Part 3

by Oben Candemir

SINCE LAST ISSUE, a lot of people have asked me the question "When are we going to be able to hack into all those copy protected programs?". I don't know how predominant this view (Assembly Language=Hacking) is, but I can assure you that once you know the principles of assembly language programming you have just about complete mastery of the computer and its workings. What you do then is up to you...

Having said that, this month's issue will concern itself mostly with branches, and the different kinds of branches available. We'll explore the new concept of Condition Codes which the 68000 sets according to certain operations. First let's see the assembly equivalent of the GOTO instruction in BASIC.

BRA - Branch instruction

● You might have realised by now that assembly language instructions look like the word they stand for. This is also the case with BRA. Here we must introduce the concept of labels in a program. Say that I had a program and I wanted to branch elsewhere in the program. In BASIC we'd use the line number of the statement to go where we wanted.

However in Assembly we have LABELS which are simply arbitrarily chosen words which can be used as reference points. Look at the following hypothetical program:

```
Start:
MOVE.L #0,D0
MOVE.L #1,D1
BRASkipNextInstruction
Back:
MOVE.L #10000,A0
MOVE.L 10(A0),A1
SkipNextInstruction:
.....
BRABack
```

You can see how the BRA command redirects the flow of the program to the labels in question. BRA isn't used all too much in programs because it branches unconditionally and a return to where the program once was is not guaranteed. For that reason we often want to modify the effect of an unconditional branch so that it branches only under certain cir-

cumstances. But to understand this we must learn about....

Condition codes

● Let's say I were to hit someone I was near, the response of that person would be one of anger. This is analogous with the computers responses ie. every action has a response from the computer. Most of the time we know what the primary response will be. For example

MOVE.L #0,D0

will as we know move a zero into data register d0. However the computer responds to instructions in a secondary way also. It has what's known as a 'Status Register' which at any time contains the results of previous instructions. The status register has 5 different response centres which are called 'flags'. They can be in one of two states ... ON or OFF / 0 or 1. These five flags are:

Status Register>		
Bit Number	Name	Meaning
0	C, Carry	Set during math operations.
1	V, OverFlow	Notifies change of sign.
2	Z, Zero	Set on result of zero.
3	N, Negative	Set when operation negative.
4	X, Extend	Arithmetic operations.

Of these flags C and Z will be mostly used by us as the others are only used when complex math operations are required. You might note that the instruction above 'MOVE.L #0,D0' sets the Z flag, as a zero has been moved into a register. Similarly 'MOVE.L #1,D0' would clear the Z flag if it was set, or make it remain clear if it was clear already.

This is no good to us if we can't use it in some way & the main use of these flags is to test for certain conditions and branch accordingly. In C if we had wanted to test if something was zero we would write the following instruction.

..... if (Dummy0) do {something}

In assembly we have a way of comparing as well. The instruction CMP -

CoMPare achieves this. For example.

CMP #0,D0

compares the D0 with the immediate value 0 and sets the Status register accordingly. We can then do something with the results in the SR (status register) by using a conditional branch. Remember the unconditional branch BRA, we now have instructions starting with 'B' and ending in the following to distinguish on what situation they branch. We must remember that some things are done in a peculiar way on the computer. For example the instruction:

CMP #25,D0

will set the Zero flag if D0 contains a 25. Therefore we could use BEQ to branch if this was so. Why is the Z flag set? Because CMP subtracts the immediate 25 from d0, and sets SR accordingly. Therefore 25-25 = 0 and Z is set! And if d0 had held another value, subtracting 25 would have cleared the Z flag as the value would be non-zero in all cases.

And therefore BNE would have worked here. It is not important that you understand all the workings of the instruction, just so long as you get the macroscopic effects.

Suffix	What does it do?
EQ	Tests for equality.
NE	Tests for inequality.
CC	Test for Carry flag clear - Greater than or equal.
CS	Tests for Carry Set - Lower than
VC	Test for OverFlow flag clear.
VS	Test for OverFlow flag set.
HI	Higher than.
LS	Lower than or Same.
HS	Higher than or Same.
LO	Lower than.
GE	Greater than or Equal to.
LT	Less than.
GT	Greater than.
LE	Less than or Equal to.
PL	Bra if PPlus result - positive.
MI	Bra if Minus - negative result.

Now let us see other instruction used to branch in assembly. The most important of these is obviously the Jump

Your Software Warehouse

AMIGA

-- GAMES --

ARCADE

ALTERED BEAST 59
BAD COMPANY 59
BANGKOK KNIGHT 59
BARBARIAN II 59
BATMAN "MOVIE" 59
BATTLEHAWKS 59
CABAL 59
CADAVER 59
CHASE H.Q. 59
CONTINENTAL 59
CIRCUS 49
DRAGON'S LAIR II 59
DRAKKHEN 59
FALLEN ANGEL 59
FIENDISH FREDDY 59
F.O.F.T. 59
GHOSTBUSTERS II 59
GHOULS & GHOSTS 59
HARD DRIVIN' 59
IT CAME FROM THE DESERT 59
LOST PATROL 59
NZ STORY 59
PICTIONARY 59
POWERDRIFT 59
POWERDROME 59
RAINBOW ISLANDS 49
RICK DANGEROUS 49
SHADOW OF THE BEAST 79
SHUFFLEP'K CAFE 49
SILKWORM 49
SKWEEK 49
SPACE ACE 89
STRIDER 59
STUNT CAR RACER 59
TEST DRIVE II 49
T.T. II MUSCLECARS 49
XENON 2 59

POPULOUS DATA
SIM CITY
SIM CITY TERRAIN
TAROT MASTER
WATERLOO

SPORTS

3D POOL
FIGHTING SOCCER
G. NORMAN GOLF
HONDA RVF
J. NICKLAUS GOLF
KICK OFF
KICK OFF EXP.
OMNI-PLAY
BASKETBALL
OMNI-PLAY
HORSE RACING
PRO TENNIS
RALLY CROSS
THE CYCLES
TV SP. BASKETBALL

39 KEEF THIEF HINTS
79 KING'S QUEST I/II/III
39 LEIS SUIT LARRY I/II
59 MORTVILLE MANOR
59 OOZE
SCAPEGHOST
SHOGUN
49 SPACE QUEST I/II
59 SPACE QUEST III
59 SWORDS TWILIGHT
49 SWORDS T. HINTS
59 UMS
49 UMS SCENARIOS
39 UNTOUCHABLES

FLIGHT SIMS

59 BOMBER
59 F16 COMBAT PILOT
49 F29 RETALIATOR
59 FALCON
69 FALCON MISSION

--- WP ---
44 EXCELLENCE
54 KIND WORDS II
39 PEN PAL
54 SCRIBBLE PLAT.

DATA BASE
DATA RETRIEVE
DATA RET. PRO
SUPERBASE
SUPERBASE PRO

--- DTP ---
CITY DESK II
PAGESTREAM
PAGESTR. FONTS
TEMPLATES

- S/SHEETS -
DG CALC
HAICALC

DIGI-VIEW GOLD 4
MODELLER 3D
SCULPT 3D XL
TURBO SILVER 3D
VIDEOSCAPE 3D

LANGUAGE
AREXX
ASSEMBRO
BENCH. MOD-2
BENCH. DEBUG
CAN DO

DEVPACK 2.0
GFA BASIC V3.0
HI-SOFT BASIC PRO
LATTICE C V5.0

- MUSIC -
AMAS
DR T'S COPY DTP
INSTANT MUSIC
SONIX

ACCESSORY

Please note that we now charge freight on all NON-SOFTWARE items. BUT LOOK WHAT WE'VE DONE TO THE PRICES!!! Call for details.

- DISKS -
3.5"

MEMOREX
NASHUA
PRECISION
PREMIUM
SKC
XIDEX

DISK BOXES
449 3.5" 40
49 3.5" 80
99 3.5" 120

- OTHERS -

DUST COVER A500
MOUSE PAD
M4 MOUSE
A500 0.5M MEMORY
A2000 8-UP (2MB)

FULL GVP RANGE
SWITCH BOXES
CABLES
GENLOCK
PRINTER RIBBONS
MIDI BOXES

22
15
79
249
695

All prices are subject to change without notice. All software items are shipped surface mail within Australia FREE. All other items are subject to a delivery charge.

This Month's SPECIALS

City Desk II \$199.00 *** Superbase Pro \$299.00

- ☐ FREE POSTAGE of software anywhere in Australia
- ☐ FRIENDLY STAFF offering good advice in helping you to decide the product you need
- ☐ HUGE RANGE OF PRODUCTS for AMIGA, C64/128, IBM PC
- ☐ GIFT VOUCHERS for any amount
- ☐ STD FREE 008 Orders Only



In keeping with our policy to provide the best service, we have again increased our staff, introduced a toll-free 008 number, and increased our stock and range.

We aim to be your No. 1 choice, by being the No. 1 quality AMIGA dealer in Australia.

STRATEGY

ARMADA
BAL. OF POWER
BORODINO
CARRIER COMM.
CONFLICT EUROPE
FIRE BRIGADE
GENGHIS KHAN
MIDWINTER
NORTH & SOUTH
OMEGA
POPULOUS

TV SP. FOOTBALL

ADVENTURE

59 BARD'S TALE I/II
49 BLOODWYCH
59 BLOODWYCH DATA
49 DRAGON'S FLAME
79 DUNGEON MASTER
59 DUNG MAST ED
59 HOUND SHADOW
59 INDINA JONES
49 KEEF THE THIEF

69 FLIGHT SIM II
FS II SCENARIOS
THEIR FINEST
HOUR

"INDOOR"

49 BATTLE CHESS
89 BRIDGE V5.0
59 CHESSPLYR 2150
32 DLX STRIP POKER
59 EMMANUELLE
59 HOLLYW'D POKER
59 TEENAGE QUEEN

85 MAXIPLAN PLUS
49 SUPERPLAN

- BUSINESS -

69 DAY BY DAY
64 DESKTOP BUDGET
59 HOME ACCOUNTS
59 PERS. A/C'S PLUS
59 PHASAR V4.0
44 WORKS PLATINUM

199
129

- UTILITIES -

AMI ALIGNM'T KIT
A-TALK III
B.A.D.
DISK MECHANIC
PIXEL SCRIPT
PROJECT D
XCOPY

- BOOKS -

Over 100 titles for the AMIGA and the C64/128. Including the complete ABACUS range for the AMIGA.

EDUCATION

[Over 85 Titles]
BUTCHER II
DESIGNASaurus
DISCOVERY
DISCOVERY DISKS
FUN SCHOOL 2
INTELLTYPE
MAVIS BEACON
ROBOT READERS
WHERE IN THE WORLD
IS CARMEN SD
YOUR FAMILY TREE

- DRAWING -

DELUXE PAINT III
DESIGN 3-D
HIGH-PAINT 2
PHOTON PAINT II
ANIMAGIC
ANIMATE 3D
DELUXE VIDEO III

CANBERRA CUSTOMERS

Our shop is now open in the Tuggeranong Town Centre. Come down and check out the largest display of Amiga software in Canberra. Also on display are a large range of C64/128 and IBM PC titles.

Use this coupon to receive a
5% Discount
on all software (except specials) in any one order.

INTERLINK — Your one stop software and accessories supplier.

INTERLINK SOFTWARE PTY. LTD.

SUPER STORE

UNIT 2, 216 COWLISHAW STREET, TUGGERANONG TOWN CENTRE



ORDER NOW
008 020 633
(orders only)
(06) 293 2233



FAX (06)
293 1438



MAIL ORDER
write on any piece of paper and send to -
P.O. Box 1155
Tuggeranong ACT 2900





ONLY COMMODORE AMIGA MAKES ALL THIS POSSIBLE.

When you first see a Commodore Amiga you'll be amazed at how much it can do. After you've seen its capabilities you won't be surprised that over a million Commodore Amigas have been sold worldwide.

That's because Commodore Amiga is the world's most advanced home and small business computer. It is also the leader in specialised applications such as Desktop Publishing, video graphic design and music.

It talks, animates, educates. Whether you're nine or ninety, student or teacher, Commodore Amiga has the software to aid learning. As well as these applications, it offers a wealth of enter-

tainment with the latest hi-tech video games.

The potential of the Commodore Amiga doesn't stop there. Commodore Amiga has thousands of software packages available as well as a huge range of supporting magazines.

The Commodore Amiga 500 and 2000 make so much possible you're limited only by your imagination.

For further information and your nearest Commodore dealer phone (008) 023 233.


Commodore

JSA COM 0406

SubRoutine or JSR command.

JSR and RTS (BSR too)

● Anyone familiar with BASIC will know the GOSUB and RETURN commands. What these do is to temporarily branch out to a subroutine and return to the next instruction prior to jumping once they're through. For example:

```
MOVE.W#VALUE,A0
MOVE.W(A0),D0
CMP.W#12,D0
BEQKeepGoing
BSRMake12
```

```
KeepGoing:
.... Other Instructions .....
```

```
;Subroutine to make D0 equal to 12
```

```
Make12:MOVE.L#12,D0
RTS
```

```
VALUE:DC.W0,12,14,16,0
```

The program can be deciphered as follows. The first instruction places the Address of VALUE into A0. The next moves what's "inside" the address to which A0 points (look over last months for an explanation of this technically called 'indirection' concept) ie. VALUE which is 0. CMP compares d0 with 12. We know that d0 is not equal to 12 so the BEQ instruc-

tion fails to branch to 'KeepGoing'. Now BSR branches to the subroutine 'Make12' and once Make12 is finished it RTS's back to the instruction following the BSR. JSR would have achieved the same effect as BSR. The difference between the BSR & JSR is the distance to which they can jump. BSR is shorter ranged but takes up less bytes in the final code. JSR can jump to anywhere in the computer's allowed memory but has the disadvantage of taking up more bytes than BSR. In general use BSR until the assembler warns you that the label to which you want to branch is 'OUT OF RANGE'.

One other branching instruction exists and that is the JMP instruction. The effect is totally the same as BRA however as with BSR and JSR the range of JMP is greater.

You may wonder what the 'DC.W' is. The DC is supported by most assemblers, it's NOT a 68000 instruction, it simply instructs the assembler to put the data following it into the final executable file. In this way it is called a PSEUDO-INSTRUCTION. The 'W' part means that the assembler will make the instructions word values. For example the code above would be made into the following by the assembler:

```
VALUE:DC.W$0000,$000C,$000E,$0010,$0000
```

So that they are word values. Had there been a 'B' the assembler would have made it:

```
VALUE:DC.B$00,$0C,$0E,$10,$00
```

However, we must remember as in last month's tutorial that Long word and word accesses to memory MUST occur at even addresses. Placing 5 byte values into some code may cause trouble with this for example.

```
MOVE.BData,D0
BRA NextIns
```

```
Data:DC.B$02
```

```
NextIns:
MOVE.L#20,D2
RTS
```

Now, all instructions are on word/long word boundaries in order to be able to be accessed by the BUS. The beginning of the code is alright, it does nothing wrong. However the DC.B in the middle of the code causes the code following to be on an odd address. Therefore disaster occurs and we GURU with error number 00000003 which means ADDRESS ERROR. Try it if you don't believe me! Some assemblers will give you a warning as to this event.

How can we fix it? Most assemblers have an 'EVEN' command which automatically pads the code so that nothing is on an odd address; so placing the pseudo-instruction EVEN (or ALIGN on Assempro/ CNOP 0,2 on Assem) will cure the problem. Alternately the "Data: DC.B \$02" could be placed at the very end of the code which would also combat it provided that no word long word accesses were made to things immediately after it.

That'll be enough material for this time, remember to revise last issues material and experiment with your assembler with the material in this month's issue. Next month our vocabulary will grow and we'll meet all the remaining important instructions of the 68000. After that we'll go on to see how we can open windows and screens and use the Amiga's hardware with the new language we've acquired. □

Commodore computer PCB exchange service

- ◆ Same day certified mail despatch ◆
- ◆ Three months warranty cover ◆

Amiga 500 \$129

Commodore C64, 64C \$99

- Simply remove your faulty board from its casing
- Your board must be complete and in serviceable condition.
- Forward your securely packed board together with your remittance to:

P PTY LTD
Parcom

Whites Hill Shopping Village
Samuel Street
Camp Hill, QLD, 4152
Phone (07) 395 2211

BANKCARD/MASTERCARD/CHEQUE/POSTAL ORDER

NAME.....
ADDRESS.....
PHONE.....PC.....
PAY BY CHEQUE..... B/C..... M/C..... Postal Order.....
CARD NO.....
EXPIRY DATE.....
SIGNATURE.....DATE.....

C64/C128 Colour, Graphics and Sound Part II

Simple graphics

by Greg Perry

ONE OF THE two character sets in all Commodore computers contains 63 special graphics symbols (plus 63 with the colours reversed). These are accessed in two ways. The graphic symbol on the left of the key is obtained with the C= key, and the one on the right with the shift key. (Reverse field characters are obtained by first pressing CTRL and RVS ON keys [RVS] then as above. Press CTRL and RVS OFF [OFF] to turn reverse characters off. Any of these can be drawn on the screen by simply PRINTing them as normal characters inside quotes as with normal strings. The colour of each can be changed with the CTRL or C= and Colour keys as usual.

Programming CONTROL characters

● Any character INCLUDING CURSOR and Colour controls may be printed within quotes. When a string containing CURSOR or Colour controls is printed, these behave EXACTLY as if typed directly to either move the cursor or change to a new colour. For example:

```
NEW
10 PRINT "[CLR,DOWN 10]" (Remember do
not type the comma.)
20 PRINT "[CYN]HELLO I'M HERE"
RUN
```

See what happens? (RUN/STOP RESTORE for normal colour.)

All of the Commodore range possess this very important feature, unavailable on many other machines: once a quote character (") has been typed, the screen editor actually enters a different mode of operation. This is called the Programmed Cursor Mode (PCM by Commodore) where ANY CURSOR or Colour control will not operate as usual but produces a particular reverse field character representing the desired operation. This allows extremely easy programming of cursor movements and colours. However, once you type a quote and are in PCM you now can't use the cursor to move around the screen!

To escape from programmed cursor mode, type either

- another ' ' : returns to normal mode
- RETURN : enters the screen line into the computer or
- Shifted RETURN : stops PCM and

moves to next line - The line is NOT entered into the computer therefore not changed. Use the cursor to Edit.

This mode is also entered after the INSERT key has been used. For example, if the INSERT key is pressed five times, any colour or cursor controls used for the next five characters will produce their corresponding reverse field code. This is very useful for editing lines. If you forgot to include a clear screen in a PRINT statement, simply position the cursor over the position, press the INSERT key once then the [CLR] key, and the required "reverse heart" character will appear. (Make sure it's inside quotes!)

Programming screen positions

● Part of the "user friendliness" of the C64 is its logical and simple on-screen editing. This extends to simple graphics and screen positioning using the programmed cursor mode. Characters are printed at the current cursor position. This can easily be controlled to allow printing anywhere on the screen at will.

It can be done with one of three methods. The traditional method consists of using two strings of cursor controls (see Lines 120 and 130 in program SCREEN POSITION1). We then select the appropriate number of cursor movements to move to the desired screen position using the string function LEFT\$. The following program illustrates this screen positioning.

```
Program : SCREEN POSITION1
10 REM (C) GREG PERRY, BRISBANE 1984
100 REM SCREEN POSITION
110 N$="HELLO[SPACE]I'M[SPACE]HERE"
120 H$="[RIGHT40]"
130 V$="[HOME,DOWN39]"
140 REM SELECT RANDOM HORIZ AND VERT
150 PRINT "[CLR,SPACE]SELECT [SPACE]SCREEN[SPACE]POSITION"
160 INPUT "ROW,[SPACE]COL":R,C
170 PRINT LEFT$(V$,R); LEFT$(H$,C);
180 PRINT N$
190 FOR J=1 TO 1000: NEXT
200 GOTO 140
210 END
```

Exercise: Try changing the string N\$ to include a colour control by
110 N\$="[CYN]HELLO I'M HERE"

Exercise: Try other strings and colours.

It is now possible to draw anything on the screen at any particular position.

The second method of positioning the cursor is fool the C64 by changing two of the operating system's memory pointers at locations 211 and 214.

The pointer at location 211 is used to place the cursor anywhere on a given line between column 0 and column 39. Larger values are not recommended. To use

POKE 211,column

Location 214 is the NEXT screen line number from where the cursor is currently positioned. It is used to position the cursor to any line, EXCEPT the top line. To use

POKE 214,L:PRINT

where L is the line number less one. The top line (line 0) cannot be reached since it is impossible to POKE a location with -1.

N.B. : A POKE 214 MUST BE FOLLOWED IMMEDIATELY by a PRINT statement.

In the above program, REPLACE Line 170 with

```
170 POKE 214,V:PRINT:POKE 211,H
and see what difference it makes. The only minor trap when using this method is that the value in location 214 is the line number plus 1, but overall it is the most efficient. It will be used from here on.
```

This screen positioning routine is very useful for formatting screen outputs. Some examples are

● A complete screen of information can be formatted then INPUTs positioned on specific lines by POKE 214,L:PRINT: POKE 211,C:INPUT\$ where L is the line no.-1, and C the column. (INPUTs should be positioned three characters to the left of the desired position to allow for the "?").

● Screen lines 22-24 can be reserved for help or error messages

● By PEEKing locations 214 and 211 to find the current cursor position, it is possible to move to another position (say line 22), print a message then return to the original line and column.

● If you are printing a long list of items which will scroll off the screen, by PEEKing 214 (the line no) you can check whether you would print past line 22 (say). If so, jump to a wait routine then clear the screen and continue printing.

(continued on page 58)

FREE

postage
anywhere in
Australia

Logico

"Where Prices Are Born, Not Raised"
MAIL ORDER

Why don't you be a part
of this unique low-priced
and rapid growing
mail order service?

AMIGA SOFTWARE**ARCADE**

Altered Beast	54.00
A.P.B.	45.00
Barbarian II	55.00
Chase HQ	47.00
Continental Circus	49.00
Dragon's Lair	85.00
Dynamite Dux	57.00
Emerald Mines II	57.00
Fallen Angel	50.00
Flying Shark	44.00
It Came from Desert	56.00
Powerdrift	56.00
Shadow of the Beast	75.00
Silkworm	50.00
Space Ace	79.00
Time Scanner	55.00

ADVENTURE

Bloodwych	54.00
Dungeon Quest	69.00
Gold Rush	54.00
Manhunter New York	57.00
Shogun	59.00
Twilight Zone	55.00

BUSINESS

Desktop Budget	79.00
Diga!	115.00
Excellence	299.00
Fontset	55.00
Haicalc	75.00
Kindwords	95.00
Pagestream	275.00
Pen Pal	189.00
Phasar 3.0	129.00
Pro Script	66.00
Superbase	79.00
Superbase 2	139.00
Superbase Pro	379.00
Superplan	139.00
Transcript	99.00
Works Platinum	215.00

EDUCATION

Animal Kingdom	70.00
Designasaurus	66.00
First Letters & Words	70.00
Math-amation	123.00
Math Wizard	72.00
Spellbound	52.00

GRAPHICS

Animate 3D	240.00
Chroma Paint	90.00
Deluxe Video III	159.00
Design 3D	130.00
Digiworks	180.00
Printmaster Plus	58.00
Rotoscope	120.00

MUSIC

Dr T's Copyist Prof	350.00
Dr T's KCS level 2	420.00
Dr T's KCS V.1.6	299.00
Instant Music	44.00
Music X	269.00

STRATEGY

Bismark	55.00
Dungeon Master	55.00
Dungeon Master Ed	26.00
Midwinter	55.00
Never Mind	52.00
Omega	69.00
Red Lightning	89.00
Sim City	65.00

GEMINI WING**ONLY \$50.00****FIRE POWER****ONLY \$37.00****RUNNING MAN****ONLY \$54.00****CASTLE WARRIOR****ONLY \$65.00****BALANCE OF****POWER 1990
ONLY \$57.00**

**PHONE
ORDERS**

(02) 516 5184**COMMODORE 64/128****ARCADE**

Barbarian II	c 27.00	d 33.00
Bards Tale I/II/III	c 22.00	d 30.00
Cabal	c 25.00	d 33.00
Double Dragon II	c 33.00	d 36.00
Ghostbusters	c 25.00	d 33.00
Hillsfar	-	d 43.00
Rally Cross	c 27.00	d 35.00
Silkworm	c 27.00	d 36.00
Supr Wonderboy	c 25.00	d 33.00
Time Scanner	-	d 34.00
Tusker	c 25.00	d 33.00
Turbo Outrun	c 25.00	d 33.00
Xenon	-	d 32.00
Xybots	c 27.00	d 35.00

ADVENTURE

Age of Adventure	-	d 22.00
Defender of the Crown	-	d 46.00
Journey to Centre Earth	-	d 35.00
Sim City	-	d 50.00
Tin Tin on Moon	c 55.00	d 56.00
Uninvited	-	d 46.00
Zak McKracken	-	34.00

STRATEGY

Apache Strike	-	d 34.00
Battle Tech	-	d 54.00
Citadel	c 27.00	d 35.00
Dungeon Master Asst	-	d 43.00
Heroes of the Lance	-	d 34.00
Laser Squad	-	d 39.00
Monopoly	c 27.00	d 34.00
Pirates	-	d 46.00
Silent Service	-	d 36.00
Sorcerer Lord	c 27.00	d 33.00
Star Trek	c 26.00	d 27.00
Stealth Mission	-	d 79.00

BUSINESS

Bank Street Filer	49.00
Bank Street Writer	76.00
Calc Now	21.00
Calkit	30.00
Newsroom	47.00
Paperclip I/II	39.00
Paperclip Publisher	42.00
Personal Inventory	43.00
Superbase C64	79.00
Superscript C64	79.00

EDUCATION

Algebra I/II/III	50.00
Animal Kingdom	39.00
Decimal Dungeon	39.00
Kidwriter	50.00
Kindercomp	50.00
Math Maze	50.00
Mavis Beacon Typing	46.00
Race Car 'Rithmetic	39.00
Remember	75.00
Snoopy Writer	24.00
Spellicopter	42.00
The Grammar Examiner	50.00

GRAPHICS

Graphics Expander	54.00
Graphics Magician Jnr	39.00
The Print Shop	64.00
The Print Shop Comp	54.00

MUSIC

Instant Music	30.00
Music Constr Set	22.00
Music Writer	19.00

FREEZE MACHINE**ONLY \$89.00****EXPERT****CARTRIDGE V3.2
ONLY \$99.00****EPYX FAST LOAD****CARTRIDGE
ONLY \$65.00****DOUBLE IMAGE II****DISK
ONLY \$52.00****JUST BECAUSE YOU DON'T SEE IT - DOESN'T MEAN WE DON'T HAVE IT !!****MAIL ORDER FORM**

PROGRAM NAME	COMPUTER	CASSETTE/DISK	QUANTITY	PRICE

Send to: Logico, 4 Holmwood St, Newtown
NSW 2042

Method of payment: tick for Cheque ☐ Postal Order ☐

Tick for Bankcard ☐ Mastercard ☐ Visa ☐

Credit Card No _____

Valid from _____ Until end _____

Name as per card _____

Signature _____

Delivery to:

Name _____

Address _____

P/code _____

Telephone (____) _____

Date Sent _____

TOTAL \$ _____

POSTAL CHARGE FREE _____

GRAND TOTAL \$ _____



BRIWALL AUSTRALIA


BUSINESS HOURS
Mon to Friday
9AM to 4.30PM

PO BOX 9
RIVETT ACT 2611

24 HOUR SERVICE
PHONE: (062) 880 131
FAX: (062) 880337

64/128

AMIGA



SKETCHPAD 128

Brand new from Free Spirit. Sketchpad 128 fully supports your C128 and takes advantage of its crisp 80 column graphics capabilities. It is packed with all the features of a professional drawing package such as drawing SMOOTH freehand lines, 3D Solids, creating Slideshows, Cut & Paste, Clip, Flip, Enlarge, Shaded Fill Patterns, a variety of Fonts, Air Brush and more! It supports Printshop graphics and is completely compatible with all BASIC 8 files. Sketchpad 128 unleashes the graphics power of your C128! It supports your 1351 Mouse, 64K Video Chip, 1581 drive and 80 column display.

What more could any real C128 user ask for?

ONLY \$39

Spectrum 128

A deluxe paint program for the C128D (or the C128 with 64K Video RAM Upgrade). Uses 80 column display for 640 x 200 pixel resolution. Will display 128 colours! Menu operated. Requires 1351 or compatible Mouse. Features include air brush, erase, mirror, multi-colour, block fill or erase, pixel editor, colour editor, fonts, slide show and more. Compatible with Sketchpad 128, News Maker 128, Basic 8, 1750 REU, 1541, 1571 and 1581 disk drives

OUR PRICE \$49

WHILE THEY LAST

WORD PERFECT & THE WORKS - PLATINUM EDIT

BOTH THESE TOP TITLES REDUCED BY OVER \$120 TO \$299

THIS MONTH ONLY

The latest Amiga word processing sensation is now available

PEN PAL

Only \$198

Look at these features:- Flow text around graphics; View full page or close-up; Create forms; Spell check; Analyse writing style; Mail Merge; Create data bases; Labels and reports; Multiple graphics on same paper; Resize and Crop images and lots lots more.

OUT NOW

The Write Stuff

C128

The most productive C128 word processor on the market! Features? The list is so long, but... 60 User-definable macros, Up to 64K divided into 10 work areas. Built-in Outline Generator, File Translator for other wip documents, Quick preview for up to 250 columns, WYSIWYG preview, Industrial strength printer macros, Load/save to 16K buffer, Support 1700/1750 RAM Expander, Split screen option, Alarm clock. Micro justification/line pitch control; Create custom characters, and much more! The Write Stuff, with its well-written manual, on-line help and full keyboard overlay, is easy to use. And if you need power, you won't find another wip system on the market that can match it!

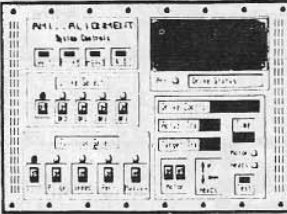
ONLY \$49

NEWSMAKER 128

Finally, Desktop Publishing for your C128. News Maker 128 can be used to create professional looking newsletters, reports, signs and posters. It can be used as a stand alone program or in combination with word processing or graphic software but uses standard sequential files for "pouring" text into user defined columns. Full page layout, pop down menus, smooth screen scrolling, font selection, cut, paste, mirror, flip are among the options available. News Maker 128 requires a C128D computer or a C128 with 64K Video RAM Chips installed, an 80 column RGB monitor, a 1571 disk drive, 1351 or M3 Mouse and a Commodore or compatible printer. Optional equipment supported includes the 1750 RAM Expansion Unit and a second disk drive.

ONLY \$43

Ami... Alignment



Treat your drives with respect!
A full-featured diagnostic & alignment system

Slashed to \$49

DR T CRAZY SPECIAL

Dr T's Model A Midi Interface

NOW ONLY \$95

Listed below is a sampling of our great range of products at excellent prices. We currently have over 1000 Amiga products (growing daily) and a great range of 64/128 products (over 400) to cater for your every requirement. We also stock a large range of utilities and books, and we guarantee all our products. Drop us a line, or phone or fax us for our free catalogues which include latest games and educational programmes.

64/128

Amiga

Utilities	
1750 Ram Expander	429
1541/1571 Drive Alignment	44
1581 Toolkit	60
Assembler/Monitor/64 Basic 8	60
Basic 8 Toolkit	48
Basic Compiler 128	29
Basic Compiler 64	90
Big Blue Reader 64/128	92
CP/M Kit	65
Cobol 64	55
Cobol 128	58
Gnome Kit 64/128	56
Maverick Copier V4	58
Digitalizer	50
Super Snapshot 5 w/C128 Disable	39
Super Snapshot V5	110
SysRES Enhanced	93
	29
Books	
CPM Users Guide	40
Superbase The Book 64/128	45
Twin Cities 128 Compendium 1	40
Accessories	
Aprospan 4 Slot Cartridge Holder	45
Warspeed 128	72
Super Graphix Senior	145
Video Ram 64K cart. full	90
Creativity	
Animation Station	129
Award Maker Plus/C64	60
Home Designer 128	59
Home Designer/Circuit Symbol Lib	19
NewsMaker 128	43
Spectrum 128	49

GEOS	
Becker Basic for Geos 64	72
Desk Pak Plus	45
Fontpak Plus	45
GEOS 64 v.2	89
GEOS/Programmer 64	110
GEOS Write Workshop 64	87
Geocalc 128	96
Geocalc 64	67
Geochart 64	48
Geofile 128	96
Geofile 64	67
Geopublish 64	69
Geos 128 v.2.0	100
Geosplot 64/128	45
Wordpublisher 64/128	60
General Productivity	
Pocket Filer 2	79
Pocket Planner 2	79
Pocket Superpak 2	145
Pocket Writer 2	84
Security Analyst 128	70
Superbase 128 - V3	90
Superbase 64	59
Supabase/Script/Book 128 Pak	130
Supabase/Script/Book 64 Pak	110
Superscript 128	90
Superscript C64	59
Technical Analysis System 128	86
Technical Analysis system 64	58
Wordpro 128 w/Speller w/Filepro	79
Wordpro 64 w/Speller w/Turboload	79
Wordwriter 128	59
Vizistar 128	69
Write Stuff 64	40
Write Stuff 64 w/Talk	49
Write Stuff C128 Version	49
Vizwrite 128	59

Books	
1001 Things to do with Amiga	30
AMIGA Desktop Video	30
Amiga C-advanced Programmes-	45
Amiga BASIC Inside & Out Book-	45
Amiga Machine Language Book	35
Amiga System Programs Guide	60
Amiga Tips & Tricks Book	35
Amiga for Beginners	35
More Amiga Tips & Tricks -	35
General Business	
Citydesk V2.0	296
Data Retrieve	105
Data Retrieve Professional	360
Easy Ledgers	422
Excellence	289
Maxiplan Plus	305
Pen Pal	198
P.H.A.S.A.R. v3	129
Superbase Personal 2	210
Educational	
Linkword: French	43
Linkword: German	43
Linkword: Italian	43
Linkword: Spanish	43
Math-Amation (College)	86
Mavis Beacon Typing	75
Entertainment	
F16 Combat Pilot	55
Fast Break	80
Grand Prix Circuit	50
Gunship	72
Hollywood Strip Poker	50

Leaderboard Tournament Disk	27
Licence to Kill	50
Planet of Lust	49
Rambo III	50
Robocop	65
Sim City	70
Test Drive II - The Duel	59
Test Drive Scenery Disks (each)	29
Tom and Jerry	49
Creativity Graphics	
Award Maker Plus	80
Delux Paint V3.0	229
Digi Paint V3	170
Digiview 3.0	289
Digiview Gold for A500/A1000	289
Director	110
Media Font Products	30
Utilities - Languages	
64 Emulator 2/Amiga 500	86
64 Emulator 4/Amiga 1000	86
Amikit	58
Amiga Alignment System	49
Arrex	72
Assempro	143
DOS-2-DOS	79
DSM	97
Disk-2-Disk v.2.1	72
Mac Emulator	255
Raw Copy V1.3	85
Sound Music	
Dr T KCS V16A	329
Synthia Pro	329
Dr T Midi recording Studio	95
Synthia	143
Music X	429

RED HOT AMIGA SPECIALS FOR THE NEW DECADE

BLANK 3.5" DS/DD \$1.50 EACH ANY QUANTITY

ANALYSE 2	118
PRO WRITE 2.05	180
AMI KIT	58
DESKTOP	
BUDGET	85
ASSEMPRO	143
DIGIPAIN V3	170
DIGI VIEW GOLD	289
EXCELLENCE	289
PROFESSIONAL	
PAGE	479

CHECK OUT THESE GREAT SPECIALS

BASIC 8 PACKAGE

THE TOTAL BASIC 8 SET-UP
Basic 8
Basic 8 Toolkit
How To Get The Most Out Of
Basic 8

These Programmes Sold For
\$109

PACKAGE PRICE ONLY \$79
A Saving of \$30

COMMODORE 128 PACKAGE No 1

80 COLUMN FUN AND GAMES
5 Fun Programmes For The 128
Wheel and Deal
Digitalker 128
Tarot 128 ESP Tester
Memory Academy

Normal Price For These 5
Programmes is \$172
PRICED TO SELL AT \$99

AMAZING AMIGA VALUE

Media Line Desktop & Video
Package

This package contains

1. Font Disk 1
2. Animation Backgrounds
3. Clip Art Disk

Original Price for the 3
programmes was \$90

PACKAGE PRICE A LOW \$49
SAVE \$41

COMMODORE 128 PACKAGE No 3

ADVANCED USER PACKAGE
5 GREAT PROGRAMMES FOR
ADVANCED USERS
Prototerm 128 Digitalker 128
Protolinc BBS 128
Super 81 Utilities 128
Colorez 128

These Programmes Originally Sold At \$190
SPECIAL PACKAGE PRICE ONLY \$89

SAVE \$101

LATEST ENTERTAINMENT TITLES - 64/128

AD & D - Curse of Azure Bonds	50
After Burner	44
Batman - the Movie	35
Aussie Games	36
Licence to Kill	27
Rambo III	39
Superman	39
Test Drive II - the Duel	39
Tom & Jerry	31

PLUS LOTS MORE - ASK FOR
OUR CATALOGUE

AREXX

THE REXX LANGUAGE FOR
THE AMIGA

- Interpreted operation - no
compile-link run steps
- Exceptional string handling
facilities
- Built-in source level
debugger
- Compact re-entrant code -
only 32k

ONLY \$72

BRIWALL AUSTRALIA

**PO BOX 9
RIVETT ACT 2611**

ORDERS

All in stock items shipped same
day. Please allow 14 working days
for delivery of out of stock items.

Should your product be faulty
please return disk only & copy of
receipt for immediate free
replacement.

Please make cheques payable to
"Briwall Australia" and mail order to:

BRIWALL AUSTRALIA

PO BOX 9

RIVETT ACT 2611

COD also available.

Prices are subject to change
without notice.

NAME..... PH (.....)
ADDRESS.....
CITY.....STATE.....POSTCODE.....COUNTRY.....
DESCRIPTION.....QUANTITY.....EACH.....TOTAL.....

For complete list of products & prices, please tick ()

BK/CARD/MASTERCARD/VISA NO:..... EXPIRY DATE.....

Cheques payable to Briwall Australia

SIGNATURE.....

COMPUTER TYPE:.....

SUB-TOTAL.....\$.....

POSTAGE.....\$...4.00.....

GRAND TOTAL.....\$.....

AMIGA FLOPPY DISK DRIVES

FAMOUS ROCTEC BRAND - INTERNAL & EXTERNAL DRIVES



BONUS!
Free "Silicon Chip"
magazine to all
purchasers!

See our complete product range in each
month's Silicon Chip magazine

Jeremy Smith's

BOARD SOLUTIONS

Pty Ltd

Order by

- ☒ Mail
☒ Phone
☒ Fax

Looking for more flexibility for your Amiga 500 or 2000?
Want additional disk capacity? Tired of swapping disks?
Plug in a famous ROCTEC floppy disk drive - it's so easy. ROCTEC drives
are guaranteed top quality, prime spec and fully compatible. Complete with
cables, ready to go! ROCTEC drives are very popular throughout Europe -
and now they're available in Australia from Board Solutions.

14 Day SATISFACTION GUARANTEE

If you're not 100% delighted with your ROCTEC drive, you can return it to
Board Solutions within 14 days for a full refund!

You cannot lose with Board Solutions!

SPECIAL INTRODUCTORY PRICES FOR READERS OF AUSTRALIAN COMMODORE AND AMIGA REVIEW...

Description	Normally	NOW
880K Standard Drive with on/off switch	\$249	\$199
880/360K Drive with on/off switch	\$299	\$249
880K Internal Kit to suit A2000	\$229	\$179

PO BOX 1120, LANE COVE, NSW 2066

PHONE (02) 906 5696 FAX (02) 906 5222

Exercise: Write a subroutine to print a help message on line 22 of the screen then return to the top.

Exercise: Write a routine to print the numbers 1 to 100 on the screen, one on each line. Check if you are about to print past line 20 and, if so, go to a wait subroutine, then clear screen and continue.

There is a third method of screen positioning which uses one of the C64's KERNAL routines. (The KERNAL (sic) is the set of machine code subroutines which perform the main operations of the computer.) The routine is called "PLOT" and is used by

```
POKE 781,line
POKE 782,column
SYS 65520
```

Add this to the above program and try it out. DO NOT USE line numbers greater than 24, the C64 may crash!

Line Drawing

● To draw lines, we select the line character from the graphics set and print it with the corresponding cursor controls. for example, a horizontal line

```
FOR I=1 TO 40:PRINT"[C]";NEXT
```

A vertical is as easy, although is more involved. The line PRINT"[-,DOWN,LEFT]"

(Remember [-] means to hold down the shift key then press the "-" key)

prints a vertical bar and moves the cursor to directly under the line. So we repeat the sequence 20 times as

```
FOR I=1 TO 20:PRINT"[-,DOWN,LEFT]";NEXT:PRINT
```

Diagonals are achieved by printing the character then moving down one line as

```
FOR I=1 TO 20:PRINT"[M,DOWN]";NEXT:PRINT
```

This type of simple graphics is shown in the following routine which draws a border and a message. POKES to 214 and 211 are used to position the messages on the centre of the screen (Line 260). It also uses colour changes.

NOTE: you cannot simply PRINT in the last column (number 39) without expanding onto the next line, therefore the border is one short on right hand side. We will see how to access this last column position later in the chapter.

```
Program : SIMPLE BORDER
10 REM (C) GREG PERRY, BRISBANE, 1984
100 REM BORDER
110 BC=PEEK(53280): REM SAVE BORDER COLOUR
120 POKE 53280,2: REM BORDER TO RED
130 PRINT "[CLR]";
140 PRINT "[<A>]"; FOR I=1 TO 37: PRINT "[<R>]"; NEXT: PRINT "[<S>]"
150 FOR I=1 TO 22: PRINT "[<Q>]"; TAB(38) "[<W>]"; NEXT
160 PRINT "[<Z>]"; FOR I=1 TO 37: PRINT "[<E>]"; NEXT: PRINT "[<X>]"
170 REM NOW POSITION CURSOR FOR MESSAGE
180 H=14:V=10: GOSUB 250
190 PRINT "A.[SPACE]BORDER"
200 H=12:V=12: GOSUB 250
210 PRINT "38*23[SPACE]NOT[SPACE]OUT"
220 FOR T=1 TO 2000: NEXT
230 POKE 53280,BC: REM RESET BORDER COLOUR
240 END
250 REM POSITION CURSOR
260 POKE 214,V: PRINT: POKE 211,H
270 RETURN
```

Exercise: Change the printed graphics border to different colour.

Exercise: Change the message position and colour. □

(Extract from *Graphics and Sound on the C64*, (c) Dr Greg Perry, Brisbane, 1986.)

 **ComputerMate**  **Berkeley Softworks**

A.C.A.R. READERS UPGRADE & GET A FREE CLIP ART DISK? FOR SURE!

☐ Please send me GEOS 64 2.0 and my free Clip Art Disk for \$39.95 plus \$4.95 for shipping.

☐ Please send me GEOS 128 2.0 and my free Clip Art Disk for \$49.95 plus \$4.95 for shipping.

Name _____

Address _____

City _____

State _____

Method of Payment:

☐ Cheque.

☐ MasterCard

☐ Bank Card

Account Number _____

Exp. Date _____

Signature _____

Mail to: **ComputerMate/Berkeley Upgrades**
P.O. Box C64
Mt. Kuring-Gai, NSW 2080.

To be eligible for this offer, you must be a current GEOS owner. This coupon plus your GEOS manual and disks must accompany your payment. No photocopies will be accepted. Allow two weeks for delivery.

This offer is subject to all of the terms and conditions for redemption listed above. Void where prohibited by law and not to be used in conjunction with any other special offer. ComputerMate/Berkeley Softworks reserve the right to change this offer at any time.

Free clip art offer now extended to April 30, 1990.

GEOS AND GEOS MODULES
are Distributed and Supported
in Australia by

 **ComputerMate**
products (australia) pty. ltd.

P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080.

Phone: (02) 457 8388 Fax: (02) 457 8739



TV SPORTS FOOTBALL	\$69.95
DISTANT SUNS	\$79.95
SIM CITY TERRAIN EDITOR	\$34.95
FUTURE DREAMS	\$59.95
WEIRD DREAMS	\$59.95
BATTLE SQUADRON	\$59.95
FULL METAL PLANET	\$59.95
IT CAME FROM THE DESERT	\$59.95
GOLDRUSH	\$61.95
SIDESHAW	\$49.95
SHADOWGATE	\$69.95
INDIANA JONES - TEMPLE OF DOOM	\$69.95
DEMON'S WINTER	\$45.95
KEEF THE THIEF	\$45.95
FUSION	\$45.95
POWERDROME	\$54.95
RED LIGHTNING	\$54.95
HILLSFAR	\$45.95
PICTIONARY	\$45.95
OIL EMPORIUM	\$59.95
FIENDISH FREDDY	\$69.95
CONTINENTAL CIRCUS	\$54.95
SPACE ACE	\$89.95
TIME	\$69.95
DAY OF THE PHAROAH	\$54.95
SPACE QUEST	\$44.95
MR HELI	\$59.95
GARFIELDS WINTER TALE	\$49.95
NZ STORY	\$59.95
QUADRALIEN	\$69.95
CASINO GAMBLING	\$59.95
CHASE HQ	\$49.95
MANIAC MANSION	\$61.95
CHICAGO 90	\$49.95
SKYCHASE	\$52.95
QUARTZ	\$49.95
SHUFFLEPUCK CAFE	\$59.95
LICENSE TO KILL	\$45.95
FAST BREAK	\$49.95
DR. DOOM'S REVENGE	\$59.95
SLAYER	\$49.95
THUNDERBIRDS	\$59.95
DRIVIN FORCE	\$59.95
TARGHAN	\$44.95
BATMAN CAPED CRUSADER	\$61.95
A.P.B.	\$49.95
XYBOTS	\$49.95
STUNT CAR RACER	\$59.95
DRAGON SPIRIT	\$49.95
THE STORY SO FAR VOL 3	\$49.95
NAVY MOVES	\$39.95
DANGER FREAK	\$61.95
PAPER BOY	\$49.95
MOTOR BIKE MADNESS	\$19.95
ROAD WARS	\$19.95
REALM OF THE TROLLS	\$61.95
LITTLE COMPUTER PEOPLE	\$19.95
KELLY X	\$19.95
POOL	\$19.95
ACTION FIGHTER	\$69.95
SKATE OF THE ART	\$69.95
VINDICATORS	\$49.95
SAFARI GUNS	\$49.95
BATTLE VALLEY	\$49.95
DYNAMITE DUX	\$59.95
NINJA WARRIORS	\$54.95
BATMAN THE MOVIE	\$59.95
PORTS OF CALL	\$39.95
NEVERMIND	\$54.95
LEGEND OF DIEL	\$49.95
SILKWORM	\$59.95
WINDWALKER	\$49.95
IRON LORD	\$59.95
F.O.F.T.	\$69.95



SONIX	\$110.95
DISKMASTER	\$74.00
DESKTOP BUDGET	\$49.00
PEN PAL	\$199.00
PROFESSIONAL PAGE V1.3	CALL
ART PARTS FOR DPAINT	\$49.95
SEASONS & HOLIDAYS CLIP ART	\$45.95
AMIGA POSTCODE	\$49.95
SMART KEY	\$59.95
CALC KEY	\$29.95
DPAINT III	\$249.99
DPRINT II NEW 1.3 WB	\$149.00
SUPERBACK	\$99.00
QUARTERBACK	\$115.00
FORMATION	\$99.00
DELUXE VIDEO III	\$164.95
VIDEO TITLER	\$169.95
PROFESSIONAL TV TEXT	\$239.00
MODELLER 3D SPECIAL	\$169.00
DRAW 2000 - SPECIAL	\$149.00
A TALK- SPECIAL	\$49.95
VIDEOSCAPE 3D - SPECIAL	\$79.95
HOME BUILDERS CAD	\$299.00
DELUXE MUSIC CONSTR SET	\$164.95
SYBIZ EASY LEDGERS	\$575.00
DIGVIEW GOLD 4	\$349.00
DIGIPAIN 3	\$134.95
PHOTON PAINT V2.0	\$199.00
MASTER SOUND	\$89.95
ECE MIDI	\$139.95
MIDI MAGIC	\$229.95
PHILIPS MONITOR TV TUNER	\$199.00
COMICSETTER SPECIAL	\$69.95
MOVIESETTER SPECIAL	\$59.95

LOTS MORE - AMIGA - IBM - 64D

3.5" DSDD BLANK DISKS SPECIAL	\$16.95
KAO COLORED DISKS 3.5" SPECIAL	\$24.95
CITIZEN CSX-140 24 PIN COLOR PRINTER	\$799.00
AMIGA FOR BEGINNERS TUTORIAL VIDEO	\$29.95

→ NEW AMIGA 2500 \$5990.00

AMIGA 2000	\$1975.00
AMIGA 2000 + 40 MEG HARD DR.	\$2995.00
AMIGA 500	\$799.00
AMIGA STARTER KITS + FREE TUTORIAL VIDEO + 6 FREE GAMES	\$875.00
AMIGA EXTERNAL DRIVE	\$215.00 SPECIAL
AMIGA 512K RAM EXPANSION	\$199.00
1084 MONITOR	\$499.00
A590 HARD DRIVE	\$899.00
ADDITIONAL HALF MEG RAM PER	\$100.00

VIDTEK GENLOCK
KURTA GRAPHICS TABLET
NEW SHARP SCANNERS JX 100 - CALL FOR DEMO

ALLOW 14 DAYS FOR DELIVERY. ALL PRICES SUBJECT TO CHANGE. ADD \$3.00 SOFTWARE POSTAGE. HARDWARE. CALL FOR ARRANGEMENT. DO NOT SEND CASH.

QUANTITY	AMIGA TITLE	PRICE
TOTAL = \$		
TICK A BOX : CHEQUE ENCLOSED <input type="checkbox"/>		
Please debit my <input type="checkbox"/> BANKCARD <input type="checkbox"/> MASTERCARD <input type="checkbox"/>		
CARD NUMBER _____		
EXPIRY DATE _____ SIGNATURE _____		

THE HARD DISK CAFE
SHOP 9-15 BUNGAN STREET
(ENTRANCE AKUNA LANE)
MONA VALE 2103. PHONE: (02) 99 4441

Advanced BASIC

by Nick Van Heeswyk

LEARNING ADVANCED basic is not only programming, it is also necessary that you know what error messages mean. They are actually meant to help you rather than hinder progress. When you look up an error message in your manual, you usually get a hard to understand definition. This month I will try to help you with what the message really means.

Bad Data: The program had expected numbers for your data, but instead you had placed string data (letters); from an OPENed file.

Bad Subscript: The program tried to reference an element of an array whose subscript was outside the dimensions of the array. Eg: Say if you made a DIMension (A\$) of 2 by 2 and in the next line wrote A\$ (3,4)="HELLO", then you would get this error because it's out of the dimensions of the array.

Can't Continue: When you try to CONTINUE the program and it does not work, the reasons could be.

- The program had not been run yet.
- It stopped because of a programming error.
- You stopped the program and made an alteration.

Device Not Present: The relevant I/O device isn't present. Eg: You tried to load a program from drive 9 but you do not have a drive nine. Or you tried to load from your normal drive and it isn't plugged in.

Extra Ignored: Too many data items have been put in from an Input statement. Eg: Type in 10 INPUT "NAME";A\$ and run it. Put in about 5 lines of letters and you will get this error message due to too much data being entered.

File not found: On tape you have tried to load a program and it came to the end of the tape without finding the program you were looking for. On disk, no file you mentioned exists.

File not open: You tried an I/O command without opening a file first.

Formula too Complex: A string expression is too puzzling, or an arithmetic expression is too complex. Avoiding - If it's a string break it up into parts. For arithmetic use parentheses. Be careful and try to avoid this error because it could destroy your program. (This occurred to me a few times)

Illegal Direct: The command attempted in direct mode but it can only be used in program mode.

Illegal Quantity: A number in a program goes above its limit. Eg POKEing a value greater than 255. Sometimes when you write a program and you get this error say in line 110, this is where it went over the limit and not necessarily the line needing correcting. These can be hard to fix.

Next Without For: You may have too many statements than needed, or you have forgotten a FOR statement. Eg: If you just type in "NEXT" you will get this error due to no FOR statement.

Out of Data: A READ statement has run out of data. Eg Your reading sprite data has 63 bytes, but if you make it read 64 bytes this error will occur because there's not enough data.

Out of Memory: No more RAM (random access memory) left for programs or variables. Also caused by too many nested FOR loops and/or GOSUBS. In this case you have free memory but no stack left. You may have inadvertently changed the top of memory pointer.

Overflow: The result of a calculation is over 1.70141884E+38.

Redim'd Array: An array name appears in more than one DIM statement, or has been implicitly and explicitly DIMinished.

Redo From Start: An input statement received the wrong kind of data. Eg: Type in 10 INPUT "NAME";A\$ if you type in numbers this error appears or vice versa. The program still continues until the right data is entered.

Return Without GOSUB: You

have a RETURN in your program without a corresponding GOSUB.

String Too Long: Strings can be 255 characters long only.

Syntax: Basic does not recognise this statement.

Type Mismatch: Numbers used instead of Data, or vice versa.

Undef'd Function: Your defined function was called but not yet defined, with a DEF FN statement.

Undef'd Statement: An attempt was made to go to a non-existing line. Eg: Type "GOTO20", this error will appear because there is no line 20.

I hope these definitions of error messages help you when correcting your next error.

Before ending this month's article, I will show you how to get a Directory without losing your program. Just include it wherever it will not run into your program, then run that line for it to work. If you change numbers, do not forget to change the gosubs and the goto statement.

```
10 OPEN 1,8,0,"$"
20 GET #1,X$,X$
30 GET #1,X$,X$,X$,X$
40 IF ST THEN CLOSE 1:GOTO 90
50 GET #1,X$:IF X$=" "THENPRINT:
GOTO30
60 IFX$=CHR$(34) THEN P=NOT P
70 IF P THEN PRINT X$;
80 GOTO 50
90 OPEN 10,8,0,"$$"
100 FOR J = 1 TO 35:GET# 10,
X$:NEXT
110 GET# 10,Y$:CLOSE 10
120 BF = ASC (X$+CHR$(0)) +
256*ASC (Y$+CHR$(0))
130 PRINT BF "BLOCKS FREE":
RETURN
```

After running this program, once finished Return Without GOSUB will appear - this means the program is executed. Make sure when you are entering this program to have the right spacing and everything or it might not work. □

AMIGANET

Ethernet network for Amigas.

- * Industry standard Ethernet architecture.
- * Networking software included.
- * True peer-peer Amiga Networking - access any screen, hard or floppy drive, serial or parallel printer attached to any Amiga on the network.
- * A500 version - ABS injection moulded case connects to expansion port of computer.
- * A2000 version enhanced with 64Kbytes data buffer with 16bit data path assisted by a DMA sequencer. (For high traffic centralised facility or a file server.)

AmigaNet A500 \$700.00 (ex tax)

AmigaNet A2000 \$900.00 (ex tax)

GPterm-Amiga V4

Australia's most popular Amiga telecommunications software.

- * Mouse or keyboard driven, fully multitasking from CLI or workbench, User defined 'configurations' for different services, 110 page manual and more.
- * Full terminal emulations for videotex and ANSI/Amiga, IBM, VT100 ANSI terminal emulations for Viatel & Discovery 40/80, Pegasus and other text based services as well as BBSs
- * File transfer with XModem, YModem, full ZModem, SEALink, KERMIT, Punter and ASCII protocols. Batch transfers supported.

Packaged with an extensive manual, not copy protected.

GPterm-Amiga V4 \$99.00

Also available: Amiga and C64 Modem packages, GPterm-64 (videotex and ascii communications for C64/128, rrp \$59.00). Full range of NetComm and AVTEK Modems.

Available from your local dealer or direct from

GP Software

Specialists in Amiga Communications

21 Aloomba Rd. ASHGROVE QLD 4060

Ph (07) 3661402

PCM COMPUTERS

AMIGA Products

VDrive5.25	External 5.25" Floppy Disk Drives	\$260
	Drive Disable/Write Protect/Pass-Thru	
RF302C	Ext.3.5" Floppy Disk Drives	\$190
	Drive Disable/Pass Thru	
VDriveH66	66Meg hard disk drive - ST-506	\$999
	64k buff FFFS/Ext Power/Faster than GVP40Q. Formatted, Installed and ready to run	
Impact-500	45Meg GVP Hard Disk Drive-28mS SCSI Autoboot/Ext Power/4Meg mem slot	\$1450
Impact-500	40Meg GVP Hard Disk Drive-11mS SCSI Autoboot/Ext Power/4Meg mem slot	\$1600
Impact-2000	45Meg GVP Hard Disk Drive-28mS SCSI Autoboot/2Meg mem slot	\$1145
A500	Spirit 2Meg Insider with 2.0Meg	\$680
A500	Spirit 2Meg Insider with 0 K	\$380
A1000	Spirit 1.5Meg Insider with 1.5Meg	\$615
A2000	Microbotics 8Meg Expansion w/2Meg	\$680
A2000	Microbotics 8Meg Expansion w/8Meg	\$1400

AMIGA 500	A500 with 1 Meg RAM, Philips hi-res color stereo monitor. Complete system	\$1510
CM8833	Philips hi-res color stereo monitor	\$490
A500	Monitor Stand - all steel	\$40
A500	Monitor Stand/Drive Case in one with 5.25" Floppy built-in	\$320
A500	Monitor Stand/Drive Case in one with 3.5" Floppy built-in	\$300
LQ-400	Epson LQ-400 24 pin hi-res mono printer	\$550
Genius	Genius Mouse. Replacement mouse with Microswitch buttons. No more false clicks	\$75
StarCursor	Joystick - Australian made StarCursor is one of the best. Strong, responsive	\$50
Printer Cables	Printer cables to suit A500/A2000 or A1000	\$17
1.2/1.3ROM	Modification to allow you to run Kickstart 1.2 or Kickstart 1.3. Just flick the switch.	\$60
Bootswitch	Modification to allow you to boot from an external drive. A must with a 5.25" ext	\$45
MemSwitch	Modification to allow you to switch off any fastmem installed in your computer.	\$30
Disks	3.5" No Name DSDD full warranty per 10	\$14.00
Disks	5.25" No Name DSDD full warranty/per 10	\$5.50

PO Box 70 Noble Park North VIC 3174

Fax or Ph. (03) 701-0343

28 Ashton Rise Doncaster East

VIC 3109 Fax or Ph. (03) 841-8889

34 Kidman Court Thornlie WA 6108

Ph. (09) 459-0609

The Mega Entertainment Section

Edited by Phil Campbell

That's Entertainment

A round-up of this month's entertainment news and views.

Megazone MegaZZZZZZ

● Yes folks, our only competition has changed its name again. Remember *Megacomp*, the mag that came out every now and then? Changing their name to *Megacom* seemed to help a little, but not for long. Now it's *Megazone* - maybe this time the name will stick. *Megazone* is a nice looking magazine - plenty of colour, glossy paper and all that jazz. But the fact is, they're backed heavily by Ozisoft and Questor. Independent opinions, honest reviews? Maybe.

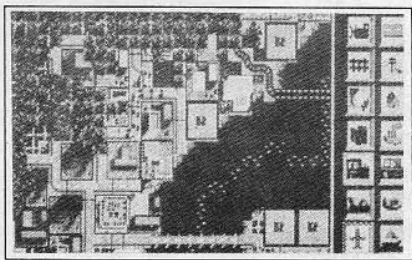
We'll have to wait and see.

C-64 CD compilation on hold

● Last minute technical hitches have left Mindscape's exciting CD compilation sitting on the shelf. I've seen the package - a standard CD, a cable that joins the headphone output of your CD player to your joystick port, and a standard C-64 disk with loader software. Heaps of games, quick loading and low price all make this a very desirable product. So hurry it up, guys!

Simcity terrain editor

● Regular readers will know that *SimCity* is my favourite game - winner of the coveted Amiga Annual Game of the Year Award and a number of other minor overseas awards... like Game of the Year in almost every foreign mag I can think of. It's nice when the big guys agree. *SimCity* puts you in charge of your very own town - design it, subdivide it, control tax rates and all sorts of other fun things. Sounds boring, but when you ac-



tually see your city spring to life on the screen it's a real buzz.

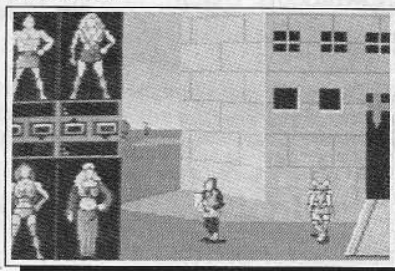
Now for the good news - Dataflow have just released a terrain editor that lets you control features that were fixed in the original game. Now you can create copies of actual cities by setting out the landscape and waterways as they are in real life.

A number of other features make this a worthwhile addition to *SimCity* - though it's a little expensive at \$39.95.

New West Phaser game from Pactronics

● *Quickshot*, a six-pack shooting gallery game, has just been released for owners of the *West Phaser* light gun. Pick off ducks, balloons, clay pipes and all the usual stuff - lots of fun if you've got the gun.

Infogrames release two new games through Questor



● Quality French software house Infogrames have released two new games through Questor. I met the suave French-accented guys from Infogrames last time they were in Australia, and I was very impressed by the high class look and feel of their software. *Full Metal Planete* and *Drakkhen* keep up the old standard. The first is a strategy game in which you must dominate and mine an ore-rich planet - not my style of game, but somebody down at the Realm end of things will have a good look at it soon. *Drakkhen* is a classy role-playing game with top

graphics and beautiful animated fight sequences. Worth a look!

Pactronics release Amos

● *Amos*, the long awaited game creation system for your Amiga, has just been released by Pactronics. The package allows you to produce your own games with full stereo sound, parallax scrolling and stacks of other professional features. There's a sprite editor that allows you to create gigantic images and even grab sprites from your favourite commercial games, IFF and HAM images can be loaded as backgrounds, and you can display up to 400 hardware sprites on a single screen. The COPPER list can be directly modified giving complete screen control. All disk functions can be easily accessed. BOBS, SPRITES, even whole screens can be animated easily with simple BASIC-like commands, and up to 54 animation sequences can be displayed at once.



Police probe petty pirates

● You might think that copying a few games is a bit of harmless fun. Cheaper than buying the real thing, too. Police recently raided a small time Sydney software pirate, confiscating his computer equipment and launching a full scale prosecution. This guy simply copied games and advertised them in the classified ads at \$5 a disk. Harmless? Not according to industry sources. Questor's Tim Allison is keenly helping police with their investigations - so watch it!

Sport Sim Special next month

● Next month we'll be reviewing a pile of the most popular sporting simulations for both C-64 and Amiga. Did you know that soccer-sims are by far the most popular type of game-type in the UK? Amazing but true. We'll take a look at computer soccer, tennis, ping pong... you name it, we've got it. Stay tuned! □

Commodore 64 hints and tips

● A great selection of hints and tips this month. First off, thanks to Ray Leech of Bomaderry NSW for the following bunch of pokes for the C-64.

Super Pipeline II

● If you've got an Expert Cartridge, try this - POKE 33106, 173.

Drop Zone

● Another one for Expert Cartridge users - POKE 3060, 173.

Mermaid Madness

Load and reset, then

● POKE 17274,169

● POKE 17275,0

● POKE 17276,234

and SYS 16384 to re-start the game with infinite energy.

New Zealand Story

● Just press the following keys all at

once during the title screen - "TRY CHEATING" - without the quote marks, of course. The border should change to a grey colour and you should then have infinite lives.

● Glenn Robinson of North Ringwood, Vic, sent in three pages crammed full of useful stuff. Thanks, Glen! Try some of these...

GAME	POKE	SYS	EFFECT
Westbank	12713,165	4100	Unltd lives
Scooby Doo	7450,96	2560	Unltd lives
Trust	6139,234		
	6140,234		
	6141,234	2304	Unltd lives
XOR	8503,160	9547	Unltd time
Draconus	9926,173		
	37638,10	15360	Unltd lives
IO	25117,254	24586	Unltd lives

● Robert Cristafio of 198a Hamilton St, Queens Park WA 6107 says he's hap-

py to help anyone who needs C-64 pokes. Just send him your request with a stamped self-addressed envelope and he'll send you back the pokes you need. Meanwhile, he's sent us a whole heap of helpful hints like the ones below ...

Commando

● POKE 14631,0

● Poke 14632,96 then SYS 2128 for increased speed

Cosmic Causeway

● POKE 14978,234

● POKE 14979,234 then SYS 8608 - not sure what it will do, but it's worth a try.

Outrun

● To stop sprite collisions, POKE 44049,96 then SYS 38045.

● For infinite time, POKE 34711,234 then POKE 34712,234 then POKE 34713,234 and SYS 38045. □

Amiga Hints and tips

Amazing Space Ace Solution Continued

● Yes, folks, here is part 2 of our world scoop *Space Ace* solution provided by Geoff Suttor of Deniliquin NSW. Last time we completed scenes 1 and 2. Now read on for ...

Scene 3

● Go DOWN to avoid being fried by the rays, then go UP straight away to run to your space ship.

Scene 4

● Go UP when the ship gets close to the space station to avoid crashing.

Scene 5

● Press FIRE straight away, or you'll be done like a dinner.

Scene 6

● Go RIGHT immediately, then when Dexter falls over go UP to jump to safety.

Scene 7

● When the platform goes down, go RIGHT and Dexter will jump on the platform when it comes back up, then go RIGHT straight away when he lands on the platform.

Scene 8

● While Dexter is still jumping go DOWN then RIGHT straight away.

● That should keep you SPACE ACE

fans happy for another month. Even with the hints, it's far from easy - just keep practising until you get the timing right.

It Came from the Desert

● Keir Sooby of Darlington WA has been hard at work on *It Came from the Desert*, the latest Cinemaware title from Mindscape. Read on ...

General Hints

● Don't ask Biff for the red sample. Fires are very hard to put out!

● Don't bother investigating the headless cow. You'll just run out of ammo and end up in hospital, not a good idea at this early stage of the game.

● Get evidence analysed as soon as you collect it.

● Collect all the evidence and present it to the Mayor as soon as you can.

● Don't get romantically involved with Jackie. If you do you'll end up in hospital suffering from exhaustion.

● As Friday the 15th draws nearer, make a few phone calls before you go out for the day. Dusty and the Sergeant have quite a few tips.

● Get rid of Ice and the Hellcats early in the game. It will save you a lot of trouble later.

Action Sequences

● **Car Sequence** - Accelerate towards the Hellcats car. When they are

Corish's

COMPUTER GAMES GUIDE HINTS, TIPS & POKES For your favourite computer

- * Do you suffer from stress, ulcers or going grey from trying to solve the latest game? Then this is the book for you.
- * Over 300 pages.
- * Over 600 games.
- * Over 150 adventures.
- * Over 5,600 hints, tips and pokes.
- * If you have a C64/128 or an Amiga this is essential for your games collection.

Distributed by
Pactronics.
Available from all good book stores, Computer Spot (all branches), Grace Bros, Myer, Harvey Norman, John Martins, Harris Scarfe, Maxwell's Office Equipment and all good computing retailers.



close to you push the joystick in the same direction as they approach from - eg if they come from the left, push left.

● **Bug Sequence** - Aim for their antennae. If you miss during the first sequence, push the gun to the top of the screen and try again.

● **Knife Sequence** - quite easy, really. A combination of the fake and the swipe will wrap this one up.

● **Hospital Escape** - find the wheelchair for extra speed. Go down in the lift. The door is on the wall at the bottom of the screen.

Evidence

● **Liquids** - Get them when Neptune Hall is attacked, or from the Quarry Workers.

● **Plaster Cast** - The farmer at the South of the town will offer to show you

ant tracks after his property is attacked.

● **Sound Recordings** - get them from the Sergeant after he discovers the audio tape.

● **Tissue Samples** - Can be picked up after any battle with the ants.

● Thanks to all readers who have sent in their hints and tips - keep them rolling in to PO Box 23, Maclean NSW 2463.

● Jason Strudwick of June NSW sent in the following Amiga Tips ...

Empire Strikes Back

● On the title screen, hold down the HELP key and type XIFARGROTKEV. Now by pressing L, C or D during the game you can make Luke, C3PO or Darth Vader appear. Also, the number

keys will now produce sound effects.

Thunderblade

● When the Helicopter picture appears type CRASH. The screen should flash, and now whenever you press the HELP key you'll move to the next level.

Falcon

● Pressing CTRL and X together gives you 500 extra cannon rounds and nine sidewinders.

Arkanoid

● Instead of pressing F1 or F2 for a 1 or 2 player game, press F3 or F4 for the same effect with different screens.

Arkanoid II

● Press CAPS LOCK and type DAL-EY on the title screen. □

Letters to the editor

Dear Phil,

● I look forward to your hints and tips each month and find some really helpful ones, especially when I get stuck. One problem - the Robocop tip in the January edition (POKE 4416,0 and SYS 32768) doesn't seem to work. Can you please help me with this? I have included some hints of my own, and will send some more next month.

Ray Leech
Bomaderry NSW

Ed: Thanks for the tips, and sorry the Robocop POKE didn't work! Try this instead. When the highscore table starts flashing, type "SUEDE-HEAD" to take you to level 2. Enter level 3 with the word "DISAPPOINTED." Hope this helps ease the pain.

Dear Sir,

● I would like to inform you that your cheats for C-64 Robocop (July 89) only work on the first load. I know that typing DISAPPOINTED skips to the final level of the game, but as I can't complete the drug factory level I don't get to see the fight with ED-209 in the OCP Building. Punching the walls doesn't help, and waggling the joystick doesn't work either. Could somebody please help me get past the drug factory?

A Moy
Bathurst NSW

Ed: Another one? Try the solution I've suggested above. Also, if you hold down the keys F,G,H and J while pressing the joystick in the direction you're facing you'll move to the top of the screen out of firing range. What am I doing? This stuff should be in the Hints and Tips section! Oh, well ...

G'day Phil,

● I'm just responding to the request of

the devotee who needs a copy of the C-64 version of Vegas Jackpot (ACAR Feb). I have an original copy of the game lying in my top drawer which I am willing to give away.

A few months back I was playing an Amiga Public Domain adventure game called Moria. When I completed it a message came up saying "MORIA v4.0 OUT SOON." I'm still waiting. Any idea where I can get a copy of the game?

Richard Gower
39 Ferrett Circuit
Kambah, ACT 2902

Ed: Thanks for your help with Vegas Jackpot. Ken Simpson, our resident PD expert, says that MORIA 4.0 is not yet available. We'll keep you posted.

Dear Ed,

● While playing Batman - The Caped Crusader we have run into a problem in both the PENGUIN and JOKER games. After many months we have managed to get to 71% and 63% respectively. Putting it simply ... help! If anyone has mastered these very enigmatic games, could they please write in and give us and other readers having problems a helping hand ... or two. This would be much appreciated.

Alastair Edgington
Michael McGoldrick
Nunawading, Vic

Ed: OK, guys, we'll see what we can do. If anybody can help out, please let us know.

Dear Sir,

● I have been thinking about making a game like RVF Honda. But instead of being on a racing motor bike, you would be on a dirt bike. RVF Honda is made by MicroStyle. If you don't make games please give me the

addresses of companies that do. The dirt bike game is on a dirt track. Yours truly,

Kobi Bradbury
Mona Vale, NSW

Ed: We don't make games. We make magazines. But let me ask you a few questions. Are you going to write the program yourself? Have you started it yet? Do you have any idea how long it might take you? Or do you just want to suggest the idea to a software company and then let them do the work? Unfortunately, you'll find that the idea has already been used. Codemasters have produced a C-64 game called MOTO-X SIMULATOR - it's on their new CD compilation.

I've also seen a program called DIRT BIKE. Anyway, don't give up, especially if you're keen to write your own programs. If you've written a good game, send us a copy. We might even review it, which will certainly make you famous - though probably not rich.

Dear Ed,

● A few issues back I read the little snippet on the shoot-em-up Flying Shark. I've always loved playing this game in the arcades, and it would be great if you could review it for me. I've seen it on the C-64 and to tell you the truth it doesn't look that great, but I'm sure the Amiga will put that right. Congratulations on a fantastic entertainment section.

Keir Sooby
Darlington WA

Ed: You think the Amiga version will put it right? Think again, Keir. The Amiga version stinks. One of our regular writers has been trying to work up enough enthusiasm to review Flying Shark for months - he just can't think of anything nice to say! Bad luck.

Dear Ed,

● Please include my high score for Bubble Bobble on the Amiga of 1,118,590 in your next high score table. Also, thanks everybody at

ACAR for the best (and cheapest) Commodore/Amiga magazine in Australia.

Bradley Bennett
Taree NSW

Ed: Sorry, Brad - can't put you on the high score table - look closely and you'll see that Vanessa van der Heyden rules the roost with 1,200,460. Keep trying, and thanks for the compliments on the mag. Keep on reading, and we'll keep improving.

Dear Ed,

I'm writing to you hoping that you can help me. I have looked everywhere for a cheat for *Alien Syndrome* that gives infinite lives and time. Can you please find a cheat for me that does this?

Paul Kabzinski
11 Braemar Ave
Morphettville
SA 5162

Ed: Well, the first thing you should do is try out Paul M's Hints and Tips service at the address above. By the way, you didn't mention what sort of computer you've got. Make sure you specify whether it's Amiga or Commodore 64. If all else fails, perhaps there's a reader out there who can help?



HALL OF FAME



Amiga

Arkanoid - 976,548 Kamikaze Andy
Bubble Bobble - 1,200,460 Vanessa van der Heyden
Continental Circus - 290,000 Phil Campbell
Crazy Cars - 34,920,680! Daniel Harrison
Denaris - 53,900 Peter Evans
Dragon Ninja - 105,030 R Zagami
Double Dragon - 116,204 R Zagami
Gee Bee Air Rally - 307,466 Kamikaze Andy
Hybris - 1,618,452 Matthew Mantle
ISS - 1,420,450 G Smyth
Karate Kid II - 48,799 David McLeish (age 8)
Leathemock - 83,300 Owen Webster
Major Motion - 50,658 Owen Webster
Menace - 996,481 Kamikaze Andy
Mindwalker - 306,214 P Schumacher
Mousetrap - 64,817 Matthew Mantle
Operation Wolf - 344,800 John Boyle
Outrun - 8,710,989 Daniel Harrison
Offshore Warrior - 626,345 Jacob Booth
Pacmania - 661,390 Ralph Holvast
Pioneer Plague - 35,412 Keir Sooby
POW - 106,065 R Zagami
Rampage - 111,600 Kamikaze Andy
Sidewinder - 385,800 Ian Malcolm
Silkorm - 913,700 A J Dunstall (Heli) 474,800 T Mason
(Jeep) All 11 Levels completed.
Speedball - 10,335 GS and PS
Starwars - 2,296,786 Ian Malcolm
Sword of Sodan - 364,750 Kamikaze Andy
Test Drive - 103,981 Daniel Harrison

Test Drive 2 - 183,128 Daniel Harrison
Tetrix - Level 100 Luke Tattersall
Typhoon - 54,255 Owen Webster
Whirligig - 7,428 Jonathan Scowen
Xenon II - 378,909 Kamikaze Andy

Commodore 64

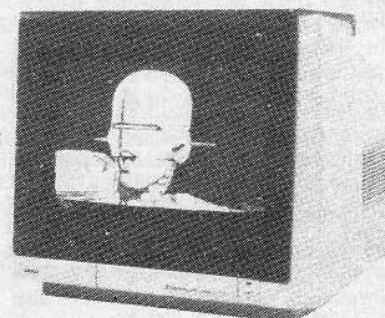
Bangkok Knights - 36,800 Nick Van Heeswyk
Bomb Jack - 344,560 J Jacobs
Bubble Bobble - 1,009,857 Kishore Ludbey
Buggy Boy - 118,750 Paul Millward
Fast Break - 136 to 9 Chris Byrne
Giana Sisters - 69816 Nick Van Heeswyk
Handball Maradona - Level M Nick Van Heeswyk
Hawkeye - 49,300 Chris Byrne
Ikari Warriors 93,000 Paul Millward
Int. Karate - 139,300 Paul Millward
Last Ninja II - Completed 34.2 sec Nick Van Heeswyk
Operation Wolf 168,789 Kishore Ludbey
Outrun - 6,438,787 Kishore Ludbey
Paperboy - 4,650 Chris Byrne
Que-dex - 639 Chris Byrne
R-type - 548,310 Nick Van Heeswyk
Robocop - 82,250 Tim Lockwood
Salamander - 235,300 Paul Millward
Street Fighter - 127,050 Chris Byrne (clocked)
Super Cycle - 136,500 Kishore Ludbey
Thundercats - 57,500 Chris Byrne
Target Renegade - 330,450 Chris Byrne (clocked)
Wonder Boy - 237,650 Kishore Ludbey

NEW

HI-TEK MONITOR FILTER

STOCK MODELS : COMMODORE 1081 : 1084S : PHILLIPS 8833 : 8854 : ATARI SC1224
ALL OTHER TYPES TO ORDER

- ☐ TOTALLY ELIMINATES MONITOR GLARE
- ☐ ENHANCES ON SCREEN COLOURS
- ☐ MAKES INTERLACE MODE TOTALLY VIABLE
- ☐ RESOLVES LONG EXPOSURE ADVERSE EFFECTS
- ☐ PROTECTS FROM R.S.I. (EYE STRAIN)
- ☐ INCREASES IMAGE SHARPNESS



OUR HIGH QUALITY FILTER IS MADE FROM OPTICAL GRADE 3 MIL ACRYLIC SPECIALLY TINTED. ITS UNIQUE FILTERING QUALITIES HAVE BEEN EXTENSIVELY TESTED AND APPROVED BY AMIGA USER GROUPS, DOCTORS, HIGH SCHOOLS AND GOVERNMENT OFFICES.

MADE IN AUSTRALIA
10 YEAR GUARANTEE

LOW COMMUNITY
SERVICE PRICE

\$49.95

HARRIS HI-TEK PTY LTD

P.O. BOX 112, ERINA N.S.W. 2250 AUSTRALIA

TEL OR FAX 043 852051 - 02 671 1856

Credit Card Orders Same Day Despatch

Can't wait?"

"OK go to Australia's top Computer
Retailers, Harvey Norman Discounts
and the Hard Disk Cafe, Mona Vale".

MONITOR TYPE

PAYMENT: PLEASE INDICATE METHOD ☐

VISA - MASTERCARD - BANKCARD

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

OR

EXPIRY DATE

☐

CHEQUES. PLEASE MAKE PAYABLE TO: HARRIS HI-TEK PTY LTD

PLEASE DEBIT MY CREDIT CARD

MR/MS/MRS

SURNAME

INITIALS

SIGNATURE

ADDRESS

POST CODE

TELEPHONE No. IN CASE OF QUERIES



by Greg Munro



If you like fast action and good graphics in the tradition of Cybernoid and Cybernoid II, then you'll enjoy Slayer.

SLAYER IS ONE of the latest programs on offer from Hewson, relative newcomers to games production, who are rapidly establishing themselves in this field by churning out lots of high quality space shoot-em-ups.

My first effort lasted about twenty seconds. My geriatric reflexes aren't what they used to be. Come to think of it they probably never were. Besides my lack of skill, the premature destruction of my last ship revealed something else. When I tried to start a new game, nothing happened. I had to reboot. I went back to the instruction sheet, which consists of about seven sentences, some of which have nothing to do with playing the game. Most appallingly crass were the first two, which raved, "You are the Slayer, you deal in death. It's you or them so go out there and kick some butts - before they frazzle yours with their photon lasers." They even bothered to provide German and French translations of this drivel. What nonsense!

The only useful sentence I could find said, "You are advised to disconnect all hardware from your computer." This annoyed me slightly. Why can't people go to the extra bit of trouble to write games that don't require you to disconnect your external drive(s) and other peripherals? I disconnected everything and tried again. Sure enough, this time it worked properly. But it did keep the internal drive light going the whole time the game is in progress, a practice I dislike. To remove the disk when you finish playing, you

need to warm boot and whip it out before your drive starts reading it again, a potentially dangerous practice.

The above comments notwithstanding, *Slayer* is still a good game, at least if you like space shoot-em-ups. And contrary to our beloved Entertainment Editor's experience in January's preview, it didn't disable the auto-fire on my joystick (better get a Quickshot Turbo II, Phil!). Which is just as well, because you certainly need it.

Slayer is a horizontally scrolling run-the-gauntlet type game. You pilot your spaceship through a deadly alley of crazy space plumbing that shoots green balls and laser bolts at you. Some of the gun emplacements and other bits and pieces are very reminiscent of *Cybernoid II*. After the first lot of horrible obstacles, you enter a chamber shaped sort of like a sideways "8" or infinity sign with the middle bar missing (or like the shape of a peanut if you like). Around the edge of this rolls a train of what look like ball bearings, doing a figure eight. I'm not sure yet what these things are, but I assume they're like the crawling beetle things in *Cybernoid II*, so I'm staying well clear of them. Next, along with more gun emplacements, you suddenly find three wedge shaped ships or missiles coming at you horizontally. Unlike the green balls, these can be destroyed.

I honestly can't think of much more to say about *Slayer*. It's a simple, straightforward fast and furious action game that you just load and play.

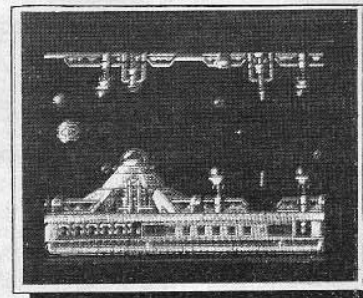
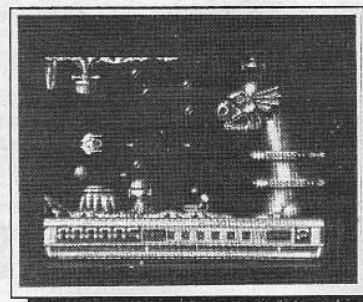
Unlike *Cybernoid II* or *Custodian*, there isn't a whole pile of Function key commands to learn. Control is entirely by joystick, except for the space bar which pauses the game (as long as you keep holding it down) and the <ESC> key which does the obvious. Often the simplest games are the best to play. *Slayer* is just the game for when you feel like a bit of totally mindless recreation - no digital processing required at all, just put your mind in analog mode and away you go!

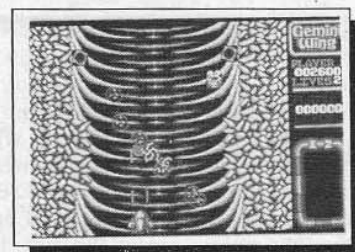
Our expert panel (of one) gave *Slayer* the following scores on the totally biased and arbitrary Munrometer scale:

- Graphics 7/10
- Sound and music 6/10,
- Playability 8/10
- Instructions 5/10
- Value for money 6/10
- Overall score 6.5.

An above average game.

Review copy from Pactronics. RRP Amiga \$49.95, C64 tape \$19.95 (with Budget Blasters 4 game pack). □





Top-Gun Mick Hellstrom checks out the exciting Gemini Wing, and decides that reading the manual can be a very good idea . . .

AS THE NAME may or may not suggest, *Gemini Wing* is about a small flying plane that flies around the all too familiar "blast-em-before-they-blast-you" scrolling landscape. "Aha!" I thought as I quickly shoved the disk in and waited expectantly for the game to boot, "another shoot-em-up arcade game." I started playing . . . unfortunately for me, I failed to read the directions before I started, which would have been a jolly good idea. I soon found myself surrounded by dozens of "aliens" flying around. I just had time to wonder if I would survive. I didn't . . . At this point I decided to read the manual.

"Diskette ins Laufwerk A legen. Das Spiel ladet sich und läuft," it instructed me carefully. After pondering on this a while I decided to turn to the English translation. Apparently, the futuristic earth and the general alien populace weren't really getting along that well, and unfortunately due to a totally foreseen mistake a headline was released in a newspaper

called the SoonDay Script.

"Die Mutant Alien Scum" was the headline of the newspaper. For some odd reason, the aliens were offended. Instead of suing for libel, they launched an all-out attack - which explains why I'm boarding the Gemini Wing fighter and setting out to kill the mutant alien scum.

I also discovered that the game can be played by two people. The ships can be controlled by either two joysticks or a joystick and the keyboard. To control the ship from the keyboard the "ergonomic" configuration used is: Q for up, A for down, O for left, P for right, and the space bar for fire.

When I tried this I found it even more impossible, and started to think that I was finally losing my game playing skills.

Whenever the fire button is pressed two laser shots emit from the space ship, and rapid fire basically is determined by how fast you can pump the trigger. Also built into the Gemini Wing fighter are things called gunballs which look like small billiard balls that follow you in a snake like fashion behind you. When you run the game you start off with three gunballs, which kept me amused for a while the first time I played it trying to shake them off. To fire a gunball all you have to do is hold down the fire button for about a second, and whatever gunball is directly behind you will be fired.

Quite simple, you say! Well, wait till you play the game!

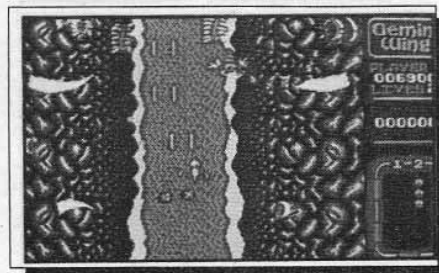
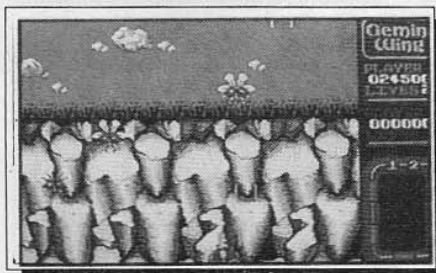
For a while, in the one player mode, I found my scores resembled some sort of random pattern. As I got used to the game they started to level off. At one point I managed to reach a score of 230,000 (to the uneducated this is a high score!).

After getting a bit sick of single-handed combat I decided to grab the nearest person ambling around to test the game out with two people. Fortunately for me I chose the right person, so I managed to see some of the higher levels. They were hard - except for the last level, which was impossible!

After spending about an hour on the last level we gave up. Apart from that the game worked really well with two players. The one thing I couldn't figure out is how many times you have to get hit before losing a life, it seemed to oscillate between one and three hits.

I found *Gemini Wing* a good game to play. You could even call it addictive. In fact, I think I might just "leap back into the control seat of my craft, warp to a vertically-scrolling etherworld and continue the good fight" as the manual suggests I do.

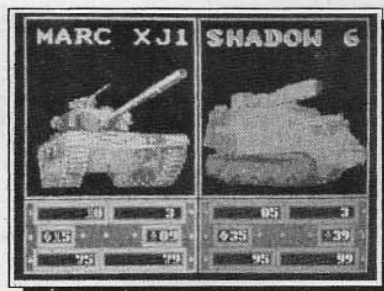
Review copy from Mindscape International (02) 899 2277. RRP Amiga \$54.95, C64 cassette \$29.95, disk \$49.95. □



FIRE POWER

by Tony Smith

AMIGA



AUSTRALIA POST SHOWED me the durability of a floppy disk recently when my review copy of *Firepower* came neatly folded in half and placed in my P.O.Box. I had visions of cutting disk covers open and finding creases across the disk. Fortunately, the disk was intact, the cover was a bit kinked and the disk was tight in the cover and hard to turn.

The first attempt to load failed, but a little careful exploration found a fast loader on the disk and it worked like a charm. *Firepower* soon loaded and offered instructions - a feature lacking on many packages. Several pages of docs soon followed, explaining the game and a few clues to help you gain good scores.

A tank selection screen is next with a choice of three tanks, each choice offering different speeds, hit points and capacity for carrying rescued men.

Player selection is next, with the choice of one player or two players being the available options. The view for a two player game is a split screen with each tank shown with a small amount of surrounding area detailed. One player games are played on a much larger screen with the view for both games be-

ing a top view.

The mission is to steal the enemy flag from his fortress. While you are looking for the flag, there are several smaller subplots going on. Any stranded and captured prisoners can be rescued and taken to friendly Red Cross stations for liberation, fuel depots can be destroyed to fill your tanks and hinder the enemy. Attacking helicopters can be shot down and survivors can be run down for bonus points and ugly smears of blood on the screen.

The controls of the tank are superior to most of the tank simulators on the market, where the stick points is where the tank goes, except if the stick is moved opposite to the way the tank faces, then it moves backwards. This feature is useful when the way is blocked by rubble and the tank must be reversed out of the obstruction.

Roads lead from the garage to a very large map comprising your own fortress, areas of bush and an enemy fortress, heavily defended and as large as yours. Sometimes a tank will become hopelessly wedged on an obstacle, forcing you to abandon it. A quick press of the F5 key and your tank self-destructs, preventing

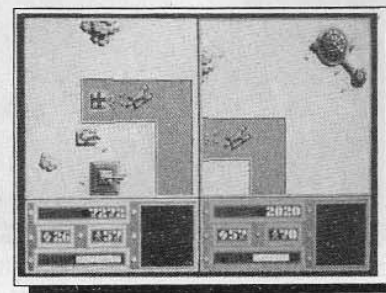
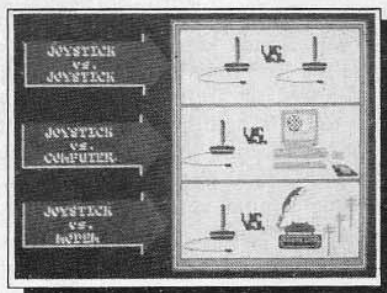
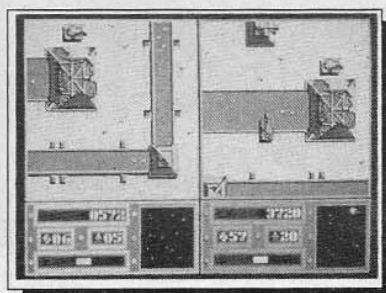
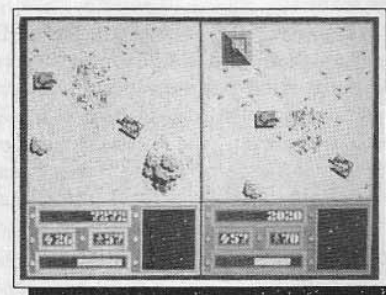
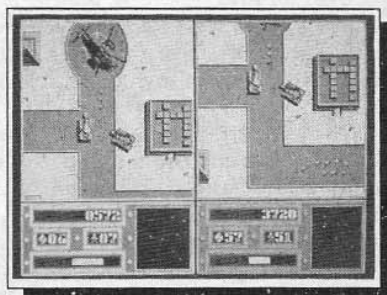
the enemy from stealing your technology and giving you a brand new tank back at the garage.

Heading west from your base leads you quickly to the enemy fortress, blast the gate and in you go! Guard towers can be destroyed with a few shots, but remember, they can only shoot in eight directions, allowing you to sneak up from unusual angles to pop 'em off. Enemy helicopters attack constantly, luckily there is a radar screen to give early warning of attacks and to show the enemy flag if it is near.

There is plenty to keep itchy trigger fingers happy and enough area to keep most map makers busy, map making would be a good idea if you are going to be really good at this game.

The two player function gives a completely different slant to the game and would have to equal *Pitstop II* in playability. When the two tanks are approaching each other with the helicopters attacking, the firebutton practically glowed hot. *Firepower* from Microillusions - look out for it.

Review copy from Questor (02) 662 7944. RRP Amiga \$39.95. □



Garfield

WINTER'S TAIL

by Greg Munro



THIS CHARACTER NEEDS no introduction. His dry humour has captured fans around the world. Loved by cat-lovers and cat-haters alike, he appears on car windows (or with his head slammed in the boot!) from Minneapolis to Marri-ckville.

Bored with his successes in other media, this infamous, fat, lazy, cynical feline has made his latest commercial venture, in the world of the personal computer.

Garfield: Winter's Tail (or: A Midsup-per Night's Dream!) is an amusing, G-rated game with excellent graphics and music and good gameplay, that should appeal to people of any age.

The game begins in the kitchen. The fridge door is still open from Garfield's latest gastronomic exploits. Garfield, exhausted from a hard day's eating, lies sleeping in his box. As cool blasts from the open fridge waft over him, he dreams of the Alps - Italian Lasagne for lunch and Swiss chocolate for dessert! A long ski run deposits him in a Lasagne Factory, where he eats madly to regain his strength before entering the Chocolate Factory. Here he discovers the mythical "Chicken That Eats The Chocolate Eggs", and sets out to catch it. Unfortunately the Chicken escapes across the Frozen Lake to the Swiss Village, leaving Garfield a trail of chocolate footprints to follow (and eat!).

As he sleeps, you can see what Garfield is dreaming about in the "dream bubble" above his head. It shows the top

of the Alps. By moving the joystick left and right you can change the picture in the dream bubble to two other parts of the dream - the Chocolate Factory and the Lake. The fire button loads the de-sired scenario. The game is designed so that if you want to complete it you must start at the Ski Slope and go all the way through each section to reach the Swiss Village and the fabled Chicken. But by choosing one of the other two main sections, you can sample the different sections of the game, and play your favourite section as much as you like. This is a very "player-friendly" game design, allowing access to higher sections whilst still retaining the challenge of winning by skill.

The ski slope is very challenging. It takes a while to get the hang of avoiding trees, logs and other obstacles by veering or jumping. Using ski jumps correctly is also hard. At the bottom corner of the screen is a rather unusual energy meter in the form of a Garfield head. As his energy runs out, the eyes, and then the head, droop lower and lower, and the music (which is excellent!) begins to go sour, like a gramophone on the wrong speed. Garfield's energy is increased in different ways on different levels.

On the Ski Slope it's by grabbing food from unwary spectators, using the famous flying cavernous mouth method. Unfortunately your doggy nemesis, Odie, is also schussing down the slope, ready to grab the goodies first.

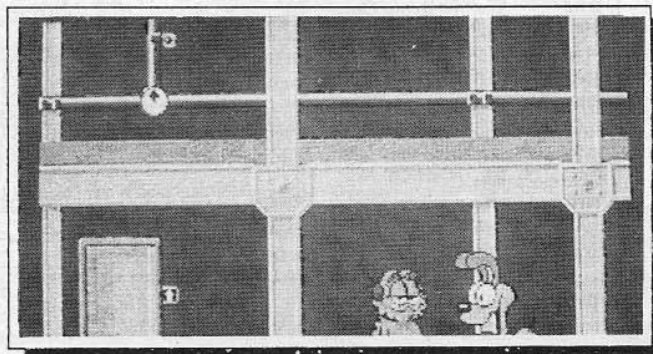
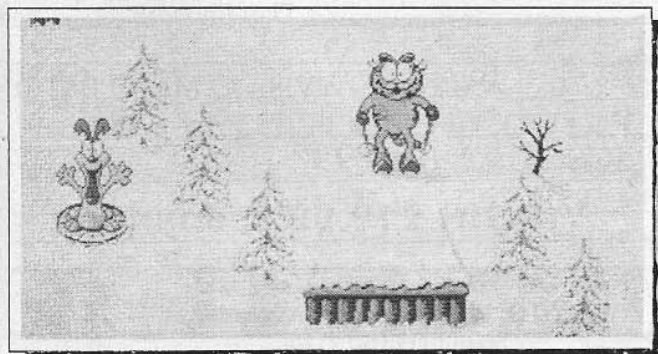
In fact Odie is a real pain in the bum in every section, trying to undermine Garfield's efforts to reach the Chicken.

The Chocolate Factory is a maze of red piping and different floor levels connected by elevator, escalator and fire-poles. The pipes carry liquid chocolate to mechanical chickens that lay chocolate eggs. Garfield's task is to switch all the valves throughout the complex so that every chicken receives a supply of chocolate. Only then will access be granted to the floor where The Chicken That Eats The Chocolate Eggs lives. Garfield's actions in this section are hilarious, including kicking Odie off the screen (or missing and kicking himself in the face!).

Unfortunately, The Chicken escapes across the Lake, and Garfield must follow on skates. This section is very, very fast, with no margin for error, as Garfield attempts to avoid hitting objects or falling in the water, which will result in him waking up with a start, back in the kitchen.

It's refreshing to see an innovative, witty, well written game that doesn't deal in death and destruction yet is still fun to play. *Garfield* would be an excellent game for a family to play together, especially working out the Chocolate Factory puzzle. I give it eight out of ten on the Munrometer!

Review copy from Pacronics (02) 748 4700. RRP Amiga \$49.95, C64 disk \$29.95, tape \$19.50. □



Prime Artifax . Public Domain and Commercial Software

Support : PHONE (02) 817-0011 *Credit Card and C.O.D. accepted over the phone.*

FREE ORDER LINE 008 252 879

Commodore 64 GEOS prices slashed!

Partner 64 - Pop up desk accessories, works with most software. Appointment Calender and Date Book, Memo Pad, Name and Address, Phone List, Calculator, Typewriter, Screen Printer and more! Five times DOS speed increase plus SwiftDOS in-built DOS commands. **\$58**

Swiftcalc - GEOS Compatible Spreadsheet. Sideays option. 250 x 104 columns, HELP screens, bar charts. Keyboard overlays. **\$38**

Data Manager 2 - Database with reports, statistics, x-searching, sorting and charting. Standard deviation. **\$38**

GEOS 64 2.0 \$59

GEOS 128 2.0 \$69

**Animation Station
\$125!**

Public Domain Theme Disks

UGA's Newflash - bi-monthly European hacker type magazine for the more advanced user. Glitzy presentation. Lots of info, utilities, how-to articles, reviews and more. Music and graphics too! Issue seven out now. **\$9.95.**

Double Demo Disk.

The following are all two disk sets - \$8 per set.

DD1 Newtek Demo Reel II

Digitised music from "Art of Noise" accompanies some smart digitised pictures and short animation segments.

DD2 Newtek Demo Reel III

Two disk set - animation and still demonstrating various Newtek products. Includes excellence Hi-Res HAM image. Clever animation and digitised sound effects.

DD3 Artscape rolling demo.

Excellent ray traced images. Director presentation and good digitised pictures.

DD4 Walker Demo One.

Requires 2MB. Fantastic animation of walker from "The Empire Strikes Back" passing in front of an Amiga 2000. Digitised sound effects. Very impressive.

DD5 Walker Demo Two.

Requires 2MB. Part two - narrow screen animation. Won various awards. Walker plus helicopter battle in Chicago streets.

DD6 Northstar Demos.

British and European graphic tricks, hacks and music. Many short demos on both disks - auto loading each in sequence. Some excellent, most with very good music. Clever programming tricks.

Fish Disks up to 300 now available.

HES 512K RAM expansion for Amiga 500 with clock/cal, on/off switch **\$199**

Roctec 3 1/2" external drive, daisy chainable, on/off. **\$219**

Bit Blitzer modem 300,1200,1200/75. **\$369**

Bit Blitzer modem 300,1200,2400. **\$399**

Bit Blitzer modem 300,1200,1200/75,2400. \$439

GP-Term terminal software-Viatel support. **\$89**

Mouse Mat.	\$8	Amiga 3-D Graphics	\$44
Starcursor Joystick.	\$49	Advanced Amiga BASIC	\$34
		System Prog. Guide	\$58
Digiview GOLD.	\$279	Assembly Language	\$29
Audiomaster II.	\$109	BASIC Inside & Out	\$42
DiskMaster.	\$59	C for Advanced Prog.	\$44
Excellence - WYSIWIG/PS	\$269	C for Beginners	\$38
Pen Pal - Spell/Graphic	\$179	Desktop Video	\$38
Scribble Platinum!	\$89	Disk Drives Ins. & Out	\$48
Raw Copy	\$79	DOS Inside & Out	\$44
		DOS Manual	\$44
3-D Pool	\$48	DOS Quick Ref. Guide	\$18
Archipalegos	\$48	Amiga for Beginners	\$33
Colossus Chess X	\$58	Graphics Inside & Out	\$48
Continental Circus	\$48	Hardware Ref. Manual	\$44
Flight Sim. II	\$69	Machine Language	\$38
Honda RVF	\$58	More tricks and tips	\$38
Kennedy Approach	\$58	ROM Kernal Reference	\$58
Laurel and Hardy	\$48	Tricks and Tips	\$38
Pictionary	\$58	ART of DTP	\$34

Superbase Personal	\$59	Mac-2-Dos	\$219
Superbase Personal II	\$119	Sculpt An.4D	\$699
Superbase Professional 3.0	\$279	Sonix	\$94
The Works Platinum	\$239	Pagestream 1.8	\$249
Scribble Platinum	\$94	Page Stream Fonts Avail.	

ORDER FORM

Send cheque or money order made out to Prime Artifax, or use your credit card.

Name: _____ Day Phone: _____
 Address: _____
 Post Code: _____ Credit Card (tick) VISA ☐ M/C ☐ B/C ☐
 Number: Exp:
 Signature: _____
 Order: _____

**POST TO: Prime Artifax, 9 Augustine St,
Hunters Hill 2110**

(Allow \$2.50 for postage air mail where possible. N.T, W.A. and S.A. are \$5)



Calling all cars! Phil Campbell is hot on the trail of Chase HQ, latest arcade conversion from Ocean. Fasten your seatbelt and come for the ride of your life ...

THE WAIL OF a siren pierces the Miami dusk. Peak hour is almost over as a sleek white convertible weaves a crazy pattern through the city traffic. An undercover police car is in pursuit - a turbo-charged Porsche, engine whining, driver straining to stay on the target's tail.

Minutes before, a message had crackled through the police radio. It was Nancy, the dispatcher at Chase Headquarters - "We've got an emergency here - Ralph, the Idaho Slasher, is fleeing towards the suburbs." That's Ralph in the car up ahead. The chase is on in earnest.

The driver of the police car is me. I'm playing *Chase HQ*, a car racing game with a distinctly different approach. There's a lot more to it than pounding around a racing circuit. This time, you've got something constructive to do - cleaning up the

city. Your task is to chase and apprehend a series of dastardly criminals, and your only weapon is your turbo-boostered Porsche.

Chase HQ was an instant hit in the video arcades. The coin-op version always attracted customers eager to try their hand at nabbing a few bad-guys. With a console featuring built-in steering wheel and gear shift, most punters didn't hesitate to feed dollar coins down the hungry slot. I even considered it myself.

Unfortunately, though, by the time I actually got around to trying out the arcade machine it had disappeared from the local amusement parlour. Pensioned off, perhaps, having grown just a little bit long in the tooth.

This means I am unable to compare the home computer conversion with the

genuine article. But I can guarantee that the Amiga version I played is a heck of a lot of fun. The action is fast, the graphics are good and the sound effects are first rate.

As I hurtle down the highway I can almost feel the wind in my face - city scenery rushes past as alternating grey stripes on the road flash towards me leaving me in no doubt that I'm travelling very, very fast. The road forks, and I find myself careening towards a construction zone - I crash through the traffic barriers and press on.

A tunnel looms ahead. As I enter, the first thing I notice is the sound of my engine reverberating from the walls. A nice touch. It sounds so real I can almost feel myself on the good old Cahill Expressway.

Suddenly, daylight again. Wicked Ralph's convertible lies dead ahead. I can tell, because there's a sign hanging in the sky above his car which distinctly reads "Criminal Here." Corny? Yep. Unrealistic? Yep. But it sure does help you to sort out the bad guys from the rest of the cars on the road. If only it was so easy in real life.

Now here comes the fun part. The only way you're going to catch Ralph, aka The Idaho Slasher, is to ram him off the road. I know, I know, it sounds a little uncouth - probably why I enjoy it. Pull in behind him, hit the turbo button and WHAM. Ouch. Wham again. And again. Ralph puts on a burst of speed, but by now you'll notice small tongues of flame licking from the rear end of his car.

All the while, the game clock ticks downwards - usually, you will find your time expires around the same time as you are making the approach for your final whammy. Very frustrating, but it sure keeps you coming back for another crack. Success is all the sweeter on the 57th attempt - you will be rewarded with an automatic arrest sequence, complete with digitised audio.

Chase HQ is very playable, very addictive, and a whole lot of fun. Distributed by Ozisoft (ph 02 313 6444).

RRP Amiga \$49.95, C64 cassette \$26.95, disk \$35.95. □



AMIGA

Castle Warrior

AMIGA

With sword and shield firmly in hand, Greg Munro sets off to save the King.

PACIFICA, THE LAND of Peace, is in turmoil. The evil wizard Zandor has infiltrated the castle of King Edred the Good and poisoned the king's food. The king will die, unless someone can find Zandor and force a cure from him.

You, Edred the Brave, son of Edred, have been given this task. You have one day to find the antidote. You are the *Castle Warrior*.

After loading the credits and an evil picture of Zandor, you get to choose one or two players, and sound effects or music. The music is good, but the sound effects are limited: the swoosh of a sword, footsteps, and a few noises as Edred jumps and ducks.

There are six levels to complete, each with different joystick commands: The Corridor of Death; The Dragon Olisos; The Monster Jibba; The Confrontation With Zandor; and The Triumphant Return. Best results are obtained with a joystick having eight distinct direction slots. With my Turbo II I found it a little hard to get some of the diagonal movement commands. Nevertheless, with a little practice, I was soon able to make Edred jump around and take his sword to the nasties coming at him out of the gloomy Corridor of Death.

The Corridor stretches out in simulated 3D in front of Edred, who stands with his back to you. As he walks forward, square tiles on the floor give an impression of depth and help you gauge how far away are the evil bat-like creatures flying out of the murk. They come at you at different heights and spread right across the corridor. You can duck around or over or under some of them, but others must be killed with the sword before they hit you and do damage. As well as the bats, you must avoid or destroy the huge clawed arms protruding from the walls at regular intervals like something out of a bad dream, just waiting to reach

out and maul you.

When the nasties are hit they disappear in a puff of grey smoke. When Edred has been hit several times, he disintegrates into a pile of armour in the middle of the corridor. Fortunately, however, the programmers have generously provided six lives for you to play with.

After the bats and arms, Edred encounters a huge Golden Cobra, more bats and arms and a Green Giant. Both Cobra and Giant spit orange fireballs. Edred can only destroy them by deflecting these fireballs back at them with his sword. This is very difficult, and usually results in the loss of a man.

If he survives all this, and another round of bats and arms, you get to enter Level Two, and confront the dragon Olisos, who is guarding the entrance to the subterranean river. Olisos is big, mean and red, and has very long arms, with knifelike claws that reach over the river to rake at you. Olisos also spits fireballs, but he can't be killed by deflecting them. Instead, you must hit him with a spear, which is not easy when you're dodging claws and fireballs!

I haven't managed to do it yet, so I can't tell you what negotiating the underground river is like, let alone the Monster Jibba or Zandor himself.

Castle Warrior is what might be described as a *Dark Castle* clone in 3D. The concept is good, but unfortunately the execution doesn't do justice to the idea. *Castle Warrior* could have been a brilliant game, but it has a sort of unfinished feel. Graphics are okay, though they contain little colour, mostly dull greys and purples to give atmosphere. Sound FX are totally unremarkable. Worse, the two-player game sometimes ignores the second joystick port altogether ... fine if you make sure you get the joystick in port one, but otherwise a poor piece of programming.

One thing really annoyed me. Maybe I'm just being a technophobic electromechanical illiterate, but I instinctively distrust games that use my hardware in extra-normal ways. *Castle Warrior* keeps the drive light on and the disc spinning all through the game, even when the disc is not being accessed. The thought that something in my disk drive is probably wearing out quicker than necessary is not a good incentive to keep playing - even more worrying is the fact that it only takes an accidental press on the disc release button and your copy of *Castle Warrior* is probably trashed for keeps!

Review copy from Mindscape International (02) 899 2277. RRP Amiga £69.95. □



CLOWN-O-MANIA

Amiga
Atari ST



Amiga Atari ST **\$39.95**



STARBYTE

Distributed in Australia
by:
COMPUTERMATE
products (australia) pty. ltd.
P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080.
Phone: (02) 457 8118 Fax: (02) 457 8739.

OPERATION: CLEANSTREETS

Andrew Baartz does his bit to clean up the city with a quick look at the latest in Beat-em-ups ...

RARELY HAS A computer game left me feeling as if I've just had a work-out at the gym. *Operation: Cleanstreets* is a killer. I mean, if you're after a bit of an adrenal-in surge, a lather of sweat and premature aging of your joystick - this is for you!

The cynics might call it senseless violence, but we all know better than that. We're out there fighting for truth, justice and the American way. It's a mean and dirty job, but someone's got to do it. "And what job is it exactly?" I hear you ask...

The Mayor has been hassling the Police Commissioner. "Our fair city's streets must be made safe once more," he said, "Roughnecks and hooligans are running rampant. Drug pushers ply their evil trade with impunity. And our police department seems powerless to stop it." That's where you come in.

You're "Cleanup Harry" (as opposed to "Dirty Harry" I suppose), an undercover cop with a reputation throughout the underworld. You've been assigned the mission of cleaning up the city - single handed. It seems like too much for just one cop. But then, there's only one cop like you!

Tracking down the pushers is the easy part. They're waiting for you. They'll never surrender without a struggle. And without a gun, you have to outfight them every step of the way. Kick-boxing, dodg-

ing and a lot of solid punching. Never let your guard down. And remember, as soon as you clean up one level, there's an even tougher one waiting for you - five in all!

As I was assigned my first mission I felt like a bit of a hypocrite. There I was, sipping my strong black brewed coffee and nibbling on a chocolate biscuit, being told to crack the "Caffeine" ring. I love caffeine. I took the mission anyway.

Down in the ghettos a cop is shown no mercy. Criminals try and run you down in the streets. They even throw things at you from first floor windows. My first encounter was with a punk wielding a chain... I wasted him! I stripped him of his drugs and went looking for a fire to burn the evil substance. Destroying the drugs will refresh my energy level, ready for another brawl (no - there's no marijuana to burn, I'm afraid).

Before I could get any further, I was hit by a knife. Although wounded I pursued and fought my attacker. I discovered that a few punches to the stomach and chest, followed by a quick kick in the head usually knocked him down. A powerful combination! Streetfighting is no activity for a gentleman, so I didn't hesitate to kick him while he was down - or at least as he tried to get up!

Down at the pier is a woman with a

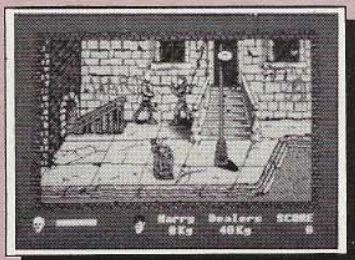
whip. I have to confess - I kicked her in the guts! But like I said, it's a dirty job and no place for a gentleman. Nor a lady. Anyhow, this dame is tough - she puts up just as good a fight as the guys.

A couple of Ninjas in Chinatown are a bit of a worry. The blokes in the martial arts school aren't particularly cooperative, either. Their Master is a real pain with that sword of his. But my favourite is the "nasty" with the chainsaw. Very tasteful!

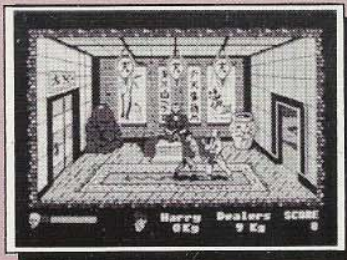
After the caffeine ring comes the nicotine ring, then the cocaine, the heroin and finally the arcadoine ring. As the profitability of the drugs increases, so does the toughness and number of pushers that you face. Dodging is essential.

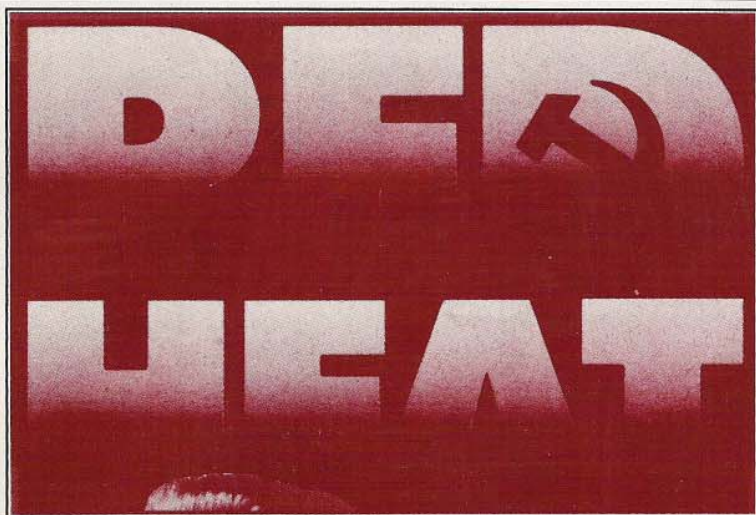
Operation Cleanstreets is a pacey little game, it's pretty straightforward and has everything you need to occupy you for hours. There is a keyboard option, but I can't wait to fix my joystick, and to play it again!

Review copy from Dataflow (02) 331 6153. RRP Amiga \$64.95. □



AMIGA





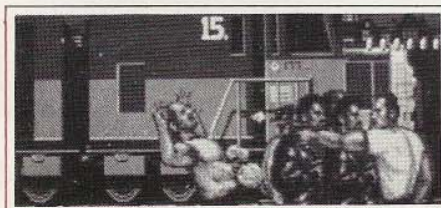
AMIGA

Muscle man Ken Simpson plays the part of Arnie Schwarzenegger in Ocean's latest film conversion and finds very few thrills. Check out his "no holds barred" report ...

THE HEAT IS on ... and the chase is in full cry as East and West join forces to hunt down a Soviet drug dealer. Two detectives - one Russian, one American - face the worst of the Chicago underworld. Street fights, the "cleanheads" gang, gunfire. You name it, they face it. If you've seen big Arnie in the movie, you'll know what I mean.

The game is *Red Heat*, and you play the part of muscle bound Ivan Danko, Moscow's top homicide detective. Your task is to track down Viktor Rostavili, the head of an international drug trafficking ring. This guy is a bad dude, and there are plenty of bad "hench-dudes" to fight off before you reach him.

On booting the game you are met



with some high class, driving music. As the intro screens come up, it's obvious that the standard of graphics is good. The game begins, and the impression remains. This is one of the first games I've played where you can actually recognise the main character. You are quite recognisably Arnold Schwarzenegger, strolling along through a Russian Sauna. Even your muscles have muscles, and they ripple as you walk.

First impressions are certainly good. But now for the bad news. All I can say is that the gameplay is simply inadequate. Movements are very limited. Joystick control is clumsy and you can't do anything except keep walking in the direction you are going. You can't turn, you can't explore. You just walk along punching and head-butting your way through the scenery.

Occasionally you get to pick up things, which is the closest to a thrill that you're gonna get. Most of the objects will help you a little, but some don't. All you can do is pick them up and try them out.

Of course there are always the bonus stages. Intermittently a different screen will pop up with no warning, and no instructions and just a picture of a hand on a joystick with a "fuel gauge" down the centre. I eventually worked out that the faster you pressed your fire button, the higher the fuel gauge went, I guess giving you extra energy.

The next scene is the hospital - again

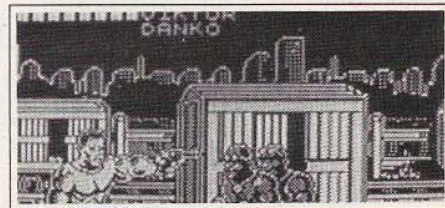
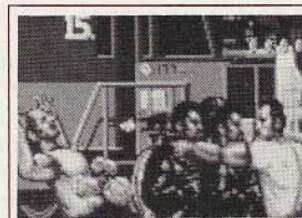
quite good graphics and with the added interest of having a gun in your hand, but only a very limited number of bullets. Here again the joystick control was poorly designed in that the normal shooting position was also the normal punching position, so very quickly I ran out of bullets before I really realised it. Not to mention being kicked and punched to death by the nurses. I know NSW hospitals are bad but none are this bad!

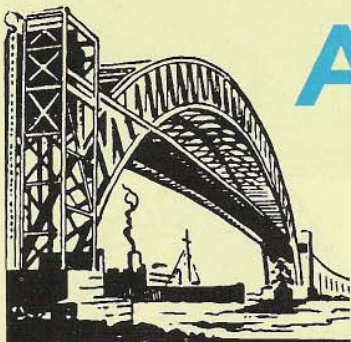
I know this sounds all awfully negative, and it could all be just sour grapes because I couldn't get past the second level and so I never found the "climactic confrontation with Viktor himself". I don't think so though. Like many of the movie conversions, they have taken an almost non-existent plot from the movie and tried to turn it into a computer game and it just hasn't worked this time.

Game control is both average, and overly violent. The hyper-realism of the graphics emphasises the fact that you are being encouraged to kick, punch and ultimately kill people. Sometimes games can be just a little too real, and I certainly won't be letting my kids play this one.

All in all, *Red Heat* is pretty lukewarm stuff. My advice is to steer clear. There are better ways of spending your money.

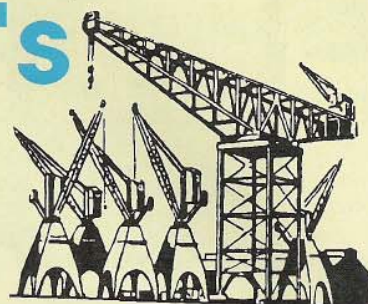
Review copy from Ozisoft (02) 313 6444. RRP Amiga \$49.95, C64 disk \$35.95, cassette \$26.95. □





Adventurer's Realm

by Michael Spiteri



HELLO EVERYONE, and welcome to the Realm - Australia's only adventure column dedicated to helping and bringing together Amiga and C64 adventurers.

If you are stuck in an adventure, can help in an adventure, provide general hints, or just would like to chat about adventures, or you may want a few free hint sheets, then just write to the following address:

Adventurers Realm: PO Box 351, Pakenham Vic 3810

If wargame simulations are your field of fun, then wargame supremo **Barry Bolitho** will be only too glad to help you out in any way he can. Just mark your letter "Wargame Section"

Finally **Kamikaze Andy** is alive and well in his Dungeon to answer all your queries on Role Playing Games (Ultima, Bards Tale, etc). Note: Andy does not have hint sheets! His address is:

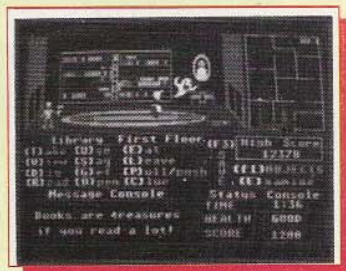
The Realm's Dungeon: 44 Hawkesbury Drive Willetton WA 6155

Psycho

For the Commodore Amiga
Distributed by Pactronics
RRP Amiga \$49.95

IT HAD TO happen, an adventure based on the all time classic movie, *Psycho*. Is this game going to be an all time classic as well? Read on ...

A great opening featuring chilling (and gory) digitised graphics and excellent sound gives a promising impression to this game, it's just when you start playing it the frustration occurs. Unfortunately the biggest problem the player faces in this adventure is actual playability.



You have to use a joystick or cursor keys to move our little detective across the screen, and getting from point A to point B seems to take ages, and you can be forgiven for falling asleep during this process.

Commands are entered by pressing a single key, and a handful of these exists such as view, search, read, take, leave, use, dig, eat, fire, open, pull, push (yep, that's almost all of them!).

The screen is divided into five sections. The location window displays a rather badly drawn picture of where you are. Your character is also shown looking through a magnifying glass. The next section of the screen is the command console which just basically lists all the commands. There is a message console that displays any clues or messages that might appear. The status console shows what time it is and what your health and score are. Finally the inventory displays the objects you are carrying.

The plot? Well, you play a detective whose job it is to track down a missing shipment of jewels, and the curator,

Free hint sheets

● Four free hint sheets per person (so select four and if you want more you have to write again). No charge, however you MUST send in a stamped addressed envelope or you will not receive any hint sheets.

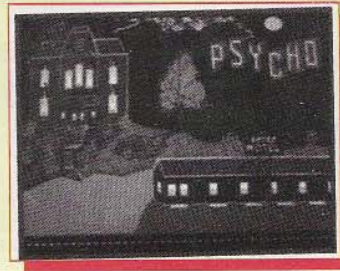
- Bards Tale 1,2,3
- Zork 1,2,3
- Hitchhikers Guide
- Hampstead
- Hobbit
- Castle of Terror
- NeverEndingStory 1
- Adventureland
- Pirate Adventure
- Borrowed Time
- The Pawn
- Deja Vu
- Dracula
- Fish

which going to be the instructions in the game, is in the old Bates house.

After managing successfully to destroy the old staircase, I got as far as the living room, where I was constantly bitten by a spooky dog. It took me ages to get from one end of the living room to the other, and by then this adventurer had enough.

Not so good graphics, not so good sound during gameplay. Documentation was brief, playability was well, need I say more. Not my cup of tea, there is a long possibility that it might be yours, but I doubt it.

- Rating out of 100 - 45
- Verdict: Guilty of boredom. □



Starflight

by Greg Munro

CAPTAIN'S LOG, ISS Bellett II: Stardate 06.03-07-4620.

Safely disembarked! Science Officer Erik Urvan Spockroach's sensors failed to reveal that *Starflight* could be a health hazard to undisciplined games addicts. Twenty hours of play in three days—no wonder I can't see straight! Damage report from Engineer Wally Medaps indicates eyes 50% operational, muscles knotted and aching from tension, blood caffeine over limit. My brain hurts!

But at least I'm back in the Real World. Here (in the kitchen) there are no vicious Gaurtoids to fight, nor snivelling Spemin to diplomate with. I don't have to worry about the Terrain Vehicle running out of fuel on Titania F70/102/2. There's just reviews to write, and a car as dead as an Uhlek's breakfast.

Starflight is a huge and somewhat complex game, kind of a cross between *Bard's Tale*, *Jinxter*, and *Elite*. It should become a classic Sci-Fi adventure quest. As with most games of this type, *Starflight* may not appeal to those who prefer good old non-cerebral fast and furious arcade play. It requires patience, planning, puzzling, and (shock, horror!) thorough reading of the manual.

Starflight uses mouse and/or keyboard. Screen updates are quick, with almost no disc accessing during play. As well as text windows, animated and still graphics are used. For an adventure quest game, the graphics are superb, though with few sound FX. Up to five games may be saved, and gameplay can be paused. The original disc can be backed up, as copyright protection is achieved by a password system like that of *FA18 Interceptor*.

The game's ethos is thinly disguised *Star Trek*. You captain an ISS starship, with a crew of Science Officer, Navigator, Engineer, Communications, and Doctor. Your mission? To boldly go where only the programmers have gone before, gathering non-sentient lifeforms, mineral wealth, and information from alien encounters, and to "keep from getting brutally

killed!"

Starflight begins at the Interstel Starport, orbiting the third planet of Starsystem F/125/100. Trading, equipping the ship, crew training, and scanning messages from Interstel all take place here. Potential crew must be created and named, trained to whatever level you can afford, and assigned positions. There is a choice of various species (species?) each with different abilities. The plant race Elowan, for example, are good communications officers.

Within a starsystem, you can travel to and orbit planets, or land and explore in the ATV, gathering specimens, minerals and information. Interstel pays a bonus for planets successfully registered as potential colonies. And fines you for choosing unsuitable ones!

Interstellar travel involves using the star-map provided with the game (also available onscreen from your Navigator) to explore the known galaxy. You can go the long way, or discover the location of "Continuum Fluxes" which take you instantaneously to distant parts, saving valuable Endurium fuel.

Alien encounters and combat occur anywhere in space. Combat and space travel are shown in an animated interactive picture. You control your ship and fire weapons using mouse or keys. Valuable information may be gained from aliens. Diplomacy and Combat occur in real time and involve rapid decisions. "Do you serve Layton?" demands a menacing android alien. Layton? Which Layton? What do I say? It only takes two seconds to be blasted into atoms if you're caught with your shields down.

Communications mode is accompanied by a text window; an excellent still graphic of the alien (like *Bard's Tale*, but better); and a list of diplomatic options, including whether you will adopt a Friendly, Hostile, or Obsequious (ie grovelling) posture. You learn which races respond best to which posture.

Exploring and encountering aliens is fun in itself, but added to this is the overall quest

objective of saving the New Empire from destruction. Discovering how to achieve this is like doing a huge 4D jigsaw puzzle! The amount of information is staggering.

Every planet has different characteristics, displayed by both writing and pix: orbit number; size; mass; gravity; biological and mineral density; composition and density of Atmosphere, Hydrosphere and Lithosphere; global weather; and temperature range. Planets are contoured with colours representing different altitudes and surfaces. You may land at any latitude and longitude. There are up to 8 planets per star; 240 star systems (and 36 "Nebulae" which may conceal more stars); 7 spectral types of stars; 5 types of planet.

There are 5 classes each of lasers, missiles, armour, shields, and engines for your ship; 22 mineral elements of various value; dozens of lifeforms; about 10 alien races; an unknown number of ruins, artifacts and messages; . . . and one solution. If my maths are right, (they're usually not) 240 stars x 4 planets per star (average) x 32400 grid references per planet = around 30 million places to look for clues in this universe-on-a-disc! That's why you need to talk to aliens.

Starflight is very impressive, probably the best interactive adventure game I've seen. But I wonder if I could sue Electronic Arts for ruining my eyesight...?

● Review copy from ECP (075) 963 488. □

Corish's COMPUTER GAMES GUIDE HINTS, TIPS & POKES For your favourite computer

- * Do you suffer from stress, ulcers or going grey from trying to solve the latest game? Then this is the book for you.
- * Over 300 pages.
- * Over 600 games.
- * Over 150 adventures.
- * Over 5,600 hints, tips and pokes.
- * If you have a C64/128 or an Amiga this is essential for your games collection.

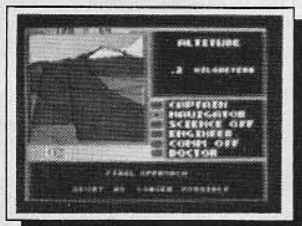
Distributed by
Pactronics.
Available from all
good book
stores, Computer
Spot (all
branches), Grace
Bros. Myer,
Harvey Norman,
John Martins,
Harris Scarfe,
Maxwell's Office
Equipment and
all good
computing
retailers.

Corish's
COMPUTER GAMES
GUIDE

Hints, Tips & Pokes
for your favourite computer

• AMIGA	• C 64
• AMSTRAD	• SAGA/MAGADONIA
• BBC	• C 128
• VIC-20	• VIC-20
• C 16	• PC
• INTENDO	• PC/XT
• IBM	• XBOX

Pactronics



Problems, Problems and More Problems

(or the Troubled Adventurers Department)

● **David Marjanovic** of Revesby in NSW is stuck in two games.

First up in *Space Quest I*

1. How does he read the cartridge on the astral bodies?

2. On Planet Kerona how does he get past the laser beams?

3. How does he kill Orat?

The in the game *Manhunter*, David has completed the first day but ran out of time in ascertaining the culprit. On the second day he has visited the inn and obtained the card, but what next?

● **Shelley DuVal** is stuck in the game *Blacksilver*. She would like any help in finding the Kings Staff.

A game called *The Book of the Dead* has reared its ugly head a few times in the Realm now. This time Les Torok of Sandy Bay is stuck in it. A particular cavern (in the dark) and an unexplorable pyramid, as well as a just as difficult is-

land are causing problems.

Speaking of games rearing ugly heads, *African Safari* pops up every so often to annoy someone. This someone being **Richard McNair** of Illawong in NSW. Richard wants to know how to stop losing the monkey after boarding the canoe. Also in *Maniac Mansion*, how do you play the game meteor mess after Dr Fred has played it. Also is there any way of blowing up the man-eating plant or opening the safe?

● **Peter Judd** of Bendigo is still having *Ultima* troubles. He writes, "I still need to know the axiom to get into the Codex Chamber (level 8 of the Abyss). The answer printed in the Jan 90 edition (Infinity) was wrong."

● **Mark Bilney** is having problems in three games.

1. *Ring of Power* - Cannot get past pirate or the giant.

2. *Aztec Tomb* - How do you get the cord to climb the tree?

3. *The Pay Off* - How do you put on the gloves, and get the picture?

● **Jerry Kushnir** is stuck in *Leisure Suit Larry* (Part 2, I think). He is stuck on the airplane and cannot find a way to get out or make the pilot land.

● **The Beaver** is stuck in *Venom*. What do you do with the food, berries, and thong? How do you stop being killed after examining Beris? How do you get through the locked door inside the inn?

● **Stuart George** of Springvale in Victoria is stuck in *Tusker*. How do you complete level 2? Do you give the key or watch to the man sitting down in the hut or to the man jumping up and down? In *Mystery Island*, how do you open the oak chest?

● **Walter Brank** is stuck in a few games. In *The Pawn*, he still cannot cross the red line. In *Jinxter*, how does he freeze the oil bottle? In *Maniac Mansion*, how does he open the safe and operator the chainsaw. □

Help Help, and More Help

(or the Smart Adventurers Department)

● HINTS AND TIPS have been pouring in, and thanks to all who have gone to the trouble of submitting help for troubled adventurers. Listed below are hints that couldn't be published last month due to lack of space, as well as a whole caseful of new hints.

● **Game:** *King Solomons Mines* (Mountain Valley Software)

● **For:** R.S. Warren

● **From:** P. Bevan

● **Help:** From the anthill go north, north, north then west, west.

● **Game:** *King Solomons Mines* (Softgold)

● **For:** R.S. Warren?

● **From:** Dorothy Millard

● **Help:** Get the water canteen. You won't find the mound until you drink from the canteen. There is however, a bug in the program. Do not try to fill or drink from the canteen in Part 1, otherwise when you arrive in part two, it will be empty. Just leave it alone.

● **Game:** *Book of the Dead*

● **For:** Meaghan Russell

● **From:** Les Torok

● **Help:** There is a rope at the southern end. Go down this if you are not carrying anything.

● **Game:** *Wasteland*

● **For:** David Campbell

● **From:** Fire Grenadier Dumpy (!)

● **Problem:** Stuck in 4th level of Base Cochise

● **Help:** 1. Get hold of a survival guide.

2. In the security electronics room you will find a machine that will allow you to reduce the frequency of security units being released.

3. In the Robots Maint Room, blow up the computer that controls the conveyor belt.

4. Use special suits to enter the Reactor Core room. Go to the glass and blow it up. Inside you will find a large computer. Install a plasma couple there.

5. To complete destruction sequence, send 1 person with blackstar key into the reactor room. Another person with the nova key to the Robot Maint Room. Another person with pulsar key to go to security room. Another person with quasar key in OSHA room. Turn the keys blackstar, nova, pulsar, quasar. Run colour sequence nuclear room - red, security - yellow, osha - green, robot maint - blue. Then go to the escape pod.

● **Game:** *Frankenstein*

● **For:** Mitchell Rashbrook

● **From:** David McKinney

● **Help:** Go north from the frozen body, aim gun at body, fire it and return to find the ice axe. To escape the ice labyrinth, move north from where you find the ice pick, and find where the ice has not properly formed, high above. Cut a hole in the wall with the pick, climb up and rest. Continue to do this until you are too tired to go further, then drop the pick, climb up and get out.

● **Game:** *Kings Quest III*

● **For:** Lesley Robinson

● **From:** David McKinney

● **Help:** If you look behind a book in the wizard's study and pull the lever you find there, you may have some trouble with a cat.

● **Game:** *Starglider II*

● **For:** Ben Kovalik

● **From:** David McKinney (Ben should be made a Zorker for sneaking this arcade game problem in)

● **Help:** The energy abe launcher launches energy cubes. The professor is supposed to give them to you but I finished the game without them.

● **Game:** *Kings Quest III*

● **For:** Lesley Robinson

● **From:** Clare Molony & Brendan Burns

● **Help:** Cat hair definitely does not come from dogs. Get cat will let you get your hands on the malevolent creature, but only if you are close enough. Approach from the rear or you will suffer for it. And be careful afterwards, for this particular animal is vengeful and capable of bringing about your end.

● **Game:** *Shadowgate*

● **For:** Barbie Hitchemore

● **From:** David Marjanovic

● **Help:** Use the key from the skeleton. To get this key go behind the waterfall, operate yourself on the rock and take the pouch. Go to the pedestal room and operate the white gem on the hole in the wall. Take the crystal and operate it on the lake.

● **Game:** *DejaVu*

● **For:** Stuart Johnson

● **From:** David Marjanovic & Brendan Burns

● **Help:** To get rid of the gun go to the lowest level of the sewers and drop the gun and any other incriminating evidence. In respect to the secret passage examine the wine bottles and operate the bottle not highlighted.

● **Game:** *Case of the Mad Mummy*

● **For:** Sean O'Byrne

● **From:** Dorothy Millard

● **Help:** The wardrobe must be unlocked from the outside, but can only be opened from the inside, then you must GO DOOR.

● **Game:** *Zak McKracken*

● **For:** Dave Pittaway

● **From:** Dorothy Millard

● **Help:** Use the tree branch to get the nest and put it into the fire pit. Use the branch in the fire pit and light a fire using the lighter.

● **Game:** *Sydney Affair*

● **For:** Craig 'Striker' Wright

● **From:** Dorothy Millard

● **Help:** The briefcase key is in the body's right trouser pocket, the wallet in the left hand jacket pocket, the diary and photo in the briefcase. The bullet hole is in the wall three spaces left of the door.

● **Game:** *Dracula Pt1*

● **For:** Terri Fogarty

● **From:** Dorothy Millard

● **Help:** Eat only the lamp stew and drink water to survive the night.

● **Game:** *Not A Penny More Not A Penny Less*

● **For:** Big Diskette in Sky

● **From:** Dorothy Millard

● **Help:** To get started, examine folder and telephone numbers, then ring stockbroker and examine Robin.

● **Game:** *Ultima II*

Cockroach Software

PO Box 1154
Southport 4215
(075) 916 188

Cockroach \$42.50
Turbo Rom inc postage

Cockroach \$69.95
Graphics inc postage
Utility

ROSENEATH COMPUTERS P/L

Freepost 6, P.O Box 506
Engadine 2233. Ph: 520-2933

Now Available, the Autumn Catalogue-on-a-disk for the Amiga with over 1,000 items for the Amiga including Modems, Monitors, Hard Drives & Software. Send \$3.00 for the Disk or get it free with any order over \$50.00. The Disk can be updated for free anytime. We accept payment by Bankcard, Mastercard & Amex.

MEMORY CHIPS FOR AMIGA USERS

DIP	SPEED	120ns	100ns	80ns
411000 (1mb)			12.00	12.70
414256 (1mb)			12.00	12.70
41256	3.76	4.20	4.60	
41464		4.40	4.50	
4164	2.30	2.40	--	

Sales Tax 20%

Overnight Delivery, credit cards welcome
Phone for pricing SIMM/SIPS/COMPAQ/
ZIPS/PS2

pelham PTY LTD

Tel: (02) 427 0011 Fax: (02) 428 5460

The magic of Amiga PD and Shareware

6 Disk Sets, Educational, Games and Demos of commercial programs.

● **Rover Pack** ● **Best of Amicus** ●

● **Fish on Chips** ● **Night owl** ●

● **Easter Parade** ● **Family Pack** ●

(Catalogue and set notes available)

Cost of each set \$40.00

Send Cheques, Mastercard, Visa Order

To: **Copy-Write Research (C-WR)**

P.O. Box 774, Jamison ACT. 2614

Card Number: _____

Expiry Date: _____

Signature: _____

Great bargains for your C64/128! Australian Commodore Review Disk Mags Nos 1 to 14

Disk Magazine One \$10

Forest Raiders - shoot 'em up. Machine code paint, border, input and flash routines. Nice Lister. Recover It. And more.

Disk Magazine Two \$10

Programs demonstrating 3D graphic plots. Terminal program. Tutorial on bits and bytes. Character editor. And more.

Disk Magazine Three \$10

Hangman, Labyrinth, Calendar, Finance, Typing Practice, Roadblock, Bird Invaders. Constructabrix - education.

Disk Magazine Four \$10

Graphic Workshop - complete design system - with tutorials. Typing Tutor. Directrix - disk filing. Plurals and maths.

Disk Magazine Five \$10

Utilities for using Newsroom on an MPS 802 plus writing signs, printing Doodle and Printshop pictures. Centronics driver.

Disk Magazine Six \$12

Games: Bert the Bug, Hangman. Demos: Space Harrier, Max Headroom, etc. Home Inventory. Graphics. Utilities. And more

Disk Magazine Seven \$12

Anti-Ispic, Sledgehammer, Fast Format, Renummer, etc. For 128: Bootmaker 128/64 Utility, Convert Basics utility.

Disk Magazine Eight \$12

Track and Sector, Function Keys, Unscratched, Relocatable directory. Calendars, Chequewriter. ESCOS version 2.99.

Disk Magazine Nine \$12

C64: 14 graphics and music demos, Little Invoicer, Sprite Clock, Sprites in the Border, games, utilities and graphics. C128: 128 Disk Filer, 128 Block Reader, Three music pro-

Disk Magazine Ten \$12.95

Cup challenge - sailing simulation. Define your function keys. Compiled Appointment Manager. Escos with Music. Othello

Disk Magazine Eleven \$12.95

80 Characters, Graphic Converter, Batch line number deleter, Function key definition, System call locator. Fix directory, Text search, Disk tidy, Drive aligner. Geos printer drivers. More.

Disk Magazine Twelve \$12.95

Appointment Manager 2.1. Third Term - comms program. Panes - windowing system. Atlantis - undersea fast action shoot-em-up. Circle Navigation, Education Programs, Music.

Disk Magazine Thirteen \$12.95

Charles and Stowaway - adventures. Blackjack. Graphic Converter. Disk Diskassy - Disk utility. Disk Label Maker, Icon Changer. Easy DOS. Cruncher BASIC. Calc. Font Diskassy.

Disk Magazine Fourteen \$12.95

Electronic CAD Package. Software Cataloguer. Character Thief. Pointer C64. Best single disk file copier. Never ending scroll. SEQ file reader. CompuPage - game.

To: Australian Commodore Review, 21 Darley Rd, Randwick, NSW 2031. (02) 398 5111.

Please send me Disk Magazine(s) No(s):

.....

I enclose Cheque / Bankcard / MoneyOrder

Bankcard No:

Expiry Date:

Signature:

Name (print):

Address:

.....Postcode.....

Please add \$2 for post and packing

Adventurer's Realm

● **For:** Bradley Wenman
 ● **From:** Peter Judd
 ● **Help:** Go to Planet X (9,9,9), then to the castle. Find Father Antos and receive his blessing. Return to A.D., go to the town and offer 900GP to the Old Man near the sign A Tree.

● **Game:** *Ultima IV*
 ● **For:** Stinger
 ● **From:** Peter Judd
 ● **Help:** The candle of love is in the village cove. (A,B) (B,G). The blue stone is in de-cet level 7.

● **Game:** *Fish*
 ● **For:** Mark Healy
 ● **From:** Zaun Bhana
 ● **Help:** To retrieve the gargoyle, find some card and something to stand on. If you don't want to get nabbed by the hippies, turn off the light when you go past them. Find a dry route after casting.

● **Game:** *Mortville Manor*
 ● **For:** Noel McAskill
 ● **From:** Zaun Bhana
 ● **Help:** Attic: Search the top right draw-

er and get the wooden rod. Crypt: To enter the crypt, put the ring in the hole on top of Madonna's orb and turn it. Search to find the wooden object (in the body).

● **Game:** *Dracula 1*
 ● **For:** Terri Fogarty
 ● **From:** Zaun Bhana
 ● **Help:** From the labyrinth entrance go S.S, take lamp, go N.E. To deal with the dog, stand on the table, examine it, and throw what you find. Before climbing down to Dracula's room-wait. □

Realm's Clever Contacts

● THE FOLLOWING people have offered their services in helping out fellow adventurers (and also being pen pals). Always enclose a stamped addressed envelope when writing to a Clever Contacts. This list will be updated every few months and displayed for all to see. Finally, a big thank you to all the Clever Contacts.

Brad Roberts

43 Olearia St
 Everton Park
 QLD 4053

● **Help offered:** *Bard's Tale III, Chrono Quest, Hulk, Zorks, Infidel, Deadline, Star-cross, Rigels Revenge, Asylum, Dallas Quest, Mindshadow, Uninvited.*

Michael Jones

C/O Vison BBS
 BBS=(03) 569 4442
 Voice=(03) 563 2125

Dorothy Millard

12 Venetian Crt
 Croydon
 Vic 3136

● **Help offered:** Too many games to mention!

Andrew Hansen

4 Stevens St
 Pennant Hills

NSW 2120

● **Help offered:** *Bards series, Ultima I,III,IV, Zork 1,2*

Brendan Burns

8 Nelson St
 Ormiston
 QLD 4160

● **Help offered:** *Lord of Rings, Hobbit, Zork 2,3, Wishbringer, Kings Quest III, Deja Vu, Dracula, Hitchhikers Guide*

A.Stivala

6 Schey Pl
 Spence
 ACT 2615

● **Help offered:** *Trinity, Hitchhikers, Hobbit, Castle of Terror, Maniac Mansion, Lord of Time, King Solomons Mines.*

David Lear

7 Glenalvon Dve
 Flagstaff Hill
 SA 5159

● **Help offered:** *Boggit, NeverEnding-Story, Dracula, Eureka Prehistoric, Subsunk, Mindshadow, Wizard of Oz, Zork2*

Note to Clever Contacts: If you get sent a problem that you cannot work out, please send to me here at the Realm. □

General Hints & Tips

(Supplied by Mitchell Rashbrook, Heathridge WA)

● **Asylum:** Hack the phone for a mag-

net.

● **Ballyhoo:** A little helium gives you a little voice.

● **Hitchhikers:** To get babel fish, put gown on hook, cover drain with towel, put satchel next to panel, put junk mail on satchel, then press button.

● **Pawn:** Water is the elixir of life and snow melts at low altitudes.

● **Zork 3:** Give bread to old man. Hello Sailor is the greeting for a seaman.

● **Corruption:** Use card to break into Bill's office.

● **Guild of Thieves:** Use mirror to solve wax problem.

● **Beyond Zork:** To rescue minx, rubout footprint.

● **Shadowgate:** Heavy weight will break the bridge. □

Questor Adventurer of the Month

● QUESTOR HAVE kindly donated a prize of the a latest software package for the adventurer of the month. This month's winner is Zaun Bhana of Palmerston in Northern Territory. Among other hints and tips, Zaun sent me the complete solution to *Mortville Manor*. Congratulations Zaun, your free game should be in the mail shortly, courtesy of Questor, distributors of fine quality software. □

Advertisers Index

Amiga Annual	1	CWR	79	Naycora	63,77
Board Solutions	57	Desktop Utilities	31	PCM Computer Design	61
Briwall	56,57	Disk Magazines	79	Pactronics	6
Brunswick	8	ECP	29	Parcom	53
Busisoft	7	GP Software	61	Pelham	79
Cockroach	79	Hard Disk Cafe	23,59	Power Peripherals	9
Commodore	13,19,44,52	Harris Hi-Tek	65	Prime Artifax	70
Commodore Annual	1	Home Entertainment	3,5,40,41,49	Romac Computers	15
Computer Discounts	34, 35	Interlink	51	Roseneath	79
Computa Magic	11	Lazarus Ribbons	16	Star	47
Computermart	2,37	Logico	55	Subscriptions	8
Computermate		Maxwell	39	Whites	11
21,23,33,73,IFC,IBC		Megadisc	38	XEL	43
Computer Spot	24,25,26,27	Mindscape	OBC		

Just The Facts:

What Makes Digi-Paint 3 the Ultimate Paint Program?



"Finding the best paint program for your Amiga can be confusing, but once you have the facts it's simple."

Laura Longfellow
Sales Manager
NewTek Inc.

"Why is Digi-Paint 3 better than DeluxePaint III™?"

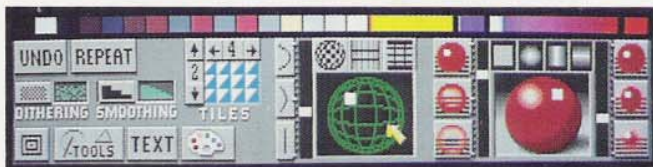
Digi-Paint 3 works in the Amiga's powerful Hold And Modify (HAM) mode, which allows you to paint using all 4096 colors simultaneously. By comparison, Deluxe Paint III (by Electronic Arts) operates in less sophisticated modes, restricting you to a maximum of only 64 colors. Advanced features available in Digi-Paint 3—including Colorizing, Variable Transparency, Shading, Lighten, Darken and Range Painting—are simply not possible in Deluxe Paint III due to its 64 color limitation. AMIGAWORLD warns, "Competitors may want to head back to the drawing board, because Digi-Paint 3 is hard to beat!"



"What makes Digi-Paint 3 better than other HAM paint programs?"

Digi-Paint 3 is the only Amiga paint program written in 100% assembly language. Although challenging to program (taking up to 10 times longer than other computer languages), it's the only way to achieve the incredible speed found in Digi-Paint 3. AMIGAWORLD calls it "the fastest HAM paint program yet" and AMIGA SENTRY estimates it's, "6-10 times faster" than the nearest contender.

Other advanced features found *only* in Digi-Paint 3 include: anti-aliased texture mapping, anti-aliased fonts, ARexx support, 1024 x 1024 super bitmaps with auto-scrolling and dithering to 30 bits per pixel (over a billion colors internally, giving you tens of thousands of apparent colors). COMPUTER SHOPPER magazine reports "Digi-Paint 3 is without a doubt the most advanced HAM paint program to date!"



"But is Digi-Paint 3 easy to use?"

I've learned that no matter how powerful a program is, if it's not friendly it's not worth my time. We designed Digi-Paint 3 with all users in mind—from the beginner just starting out with computers, to the "power user" who demands the most advanced features possible. The spiral-bound manual contains a step-by-step Guided Tour, 11 hands-on tutorials, a color coded reference card, and almost one hundred example photos.

Digi-Paint 3's intuitive user interface was created by Digi-View designer (and NewTek Founder) Tim Jenison and renowned Amiga artist Jim Sachs. It features innovative "Dashboard" controls which AMIGAWORLD regards as "a joy to use" and "very easy to learn and understand". INFO MAGAZINE says the new interface "looks great and works logically".



"What is the Transfer 24 program included with Digi-Paint 3?"

Transfer 24 is a separate program disk included in the Digi-Paint 3 package, allowing you to alter any picture's brightness, color saturation, contrast, hue and sharpness, almost as easily as adjusting the controls on your television set. Transfer 24 also lets you modify the size, palette, and resolution of any picture. These powerful features, known as "Image Processing", give you incredible control over your final artwork. You can also save your image in any of the Amiga's 24 resolution modes (up to 768x480) making it compatible with all Amiga graphics software. AX MAGAZINE notes that "Transfer 24 gives you even more options as to the final appearance of your work". AMIGAWORLD declares, "Transfer 24 is great for making overall changes."

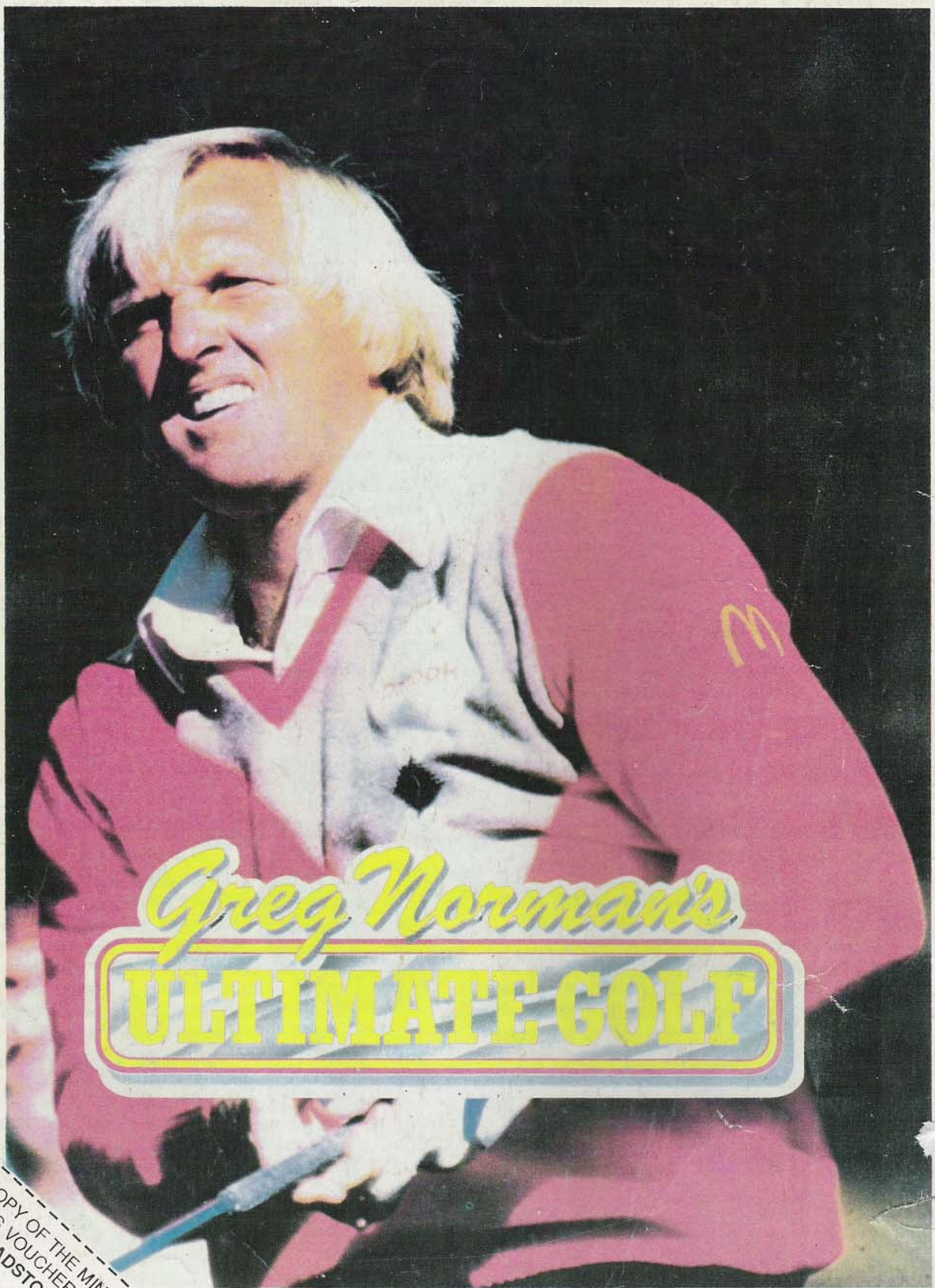
Sugg. Retail
\$129.00

Distributed and Supported in Australia by:
COMPUTERMATE
products (australia) pty. ltd.

P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080.
Phone: (02) 457 8118 Fax: (02) 457 8739.

NewTek
INCORPORATED

Digi-Paint 3, Digi-View, and Transfer 24 are trademarks of NewTek Inc.
DeluxePaint III is a trademark of Electronic Arts.
All brand and product names are trademarks of their respective holders.



Greg Norman's ULTIMATE GOLF

FOR YOUR COPY OF THE MINDSCAPE INT. PRODUCT CATALOGUE
SEND THIS VOUCHER TO MINDSCAPE INTERNATIONAL,
5-6 GLADSTONE RD, CASTLE HILL, NSW 2154

Name _____
Address _____
Machine Type _____ Postcode _____

FIRST 100 VOUCHERS
RECEIVE A FREE
GREG NORMAN
POSTER



Distributed by
Mindscape International
5-6 Gladstone Rd Castle Hill, NSW 2154
Phone: (02) 899 2277
Fax (02) 899 2348
Available in the following formats:
Amiga, Atari ST, CBM 64/128, IBM PC